SAMSUNG

# GSM TELEPHONE

## SGH-U600

# SERVICE Manual

**GSM TELEPHONE**

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# 1. Specification

## 1-1. GSM/DCS1800/PCS1900 General Specification

| | EGSM 850 Phase 2 | EGSM 900 Phase 2 | DCS1800 Phase 1 | PCS1900 |
|---|---|---|---|---|
| Freq. Band[MHz] Uplink/Downlink | 824~849<br>869~894 | 880~915<br>925~960 | 1710~1785<br>1805~1880 | 1850~1910<br>1930~1990 |
| ARFCN range | 128 ~251 | 0~124 &<br>975~1023 | 512~885 | 512~810 |
| Tx/Rx spacing | 45 MHz | 45 MHz | 95 MHz | 80 MHz |
| Mod. Bit rate/ Bit Period | 270.833 kbps<br>3.692 us | 270.833 kbps<br>3.692 us | 270.833 kbps<br>3.692 us | 270.833 kbps<br>3.692 us |
| Time Slot Period/Frame Period | 576.9 us<br>4.615 ms | 576.9 us<br>4.615 ms | 576.9 us<br>4.615 ms | 576.9 us<br>4.615 ms |
| Modulation | 0.3 GMSK | 0.3 GMSK | 0.3 GMSK | 0.3 GMSK |
| MS Power | 33 dBm~5 dBm | 33 dBm~5 dBm | 30 dBm~0 dBm | 30 dBm~0 dBm |
| Power Class | 5 pcl ~ 19 pcl | 5 pcl ~ 19 pcl | 0 pcl ~ 15 pcl | 0 pcl ~ 15 pcl |
| Sensitivity | -102 dBm | -102 dBm | -100 dBm | -100 dBm |
| TDMA Mux | 8 | 8 | 8 | 8 |
| Cell Radius | 35 Km | 35 Km | 2 Km | - |



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## 1-2. GSM TX power class

| TX Power control level | GSM850/ EGSM900 |
|---|---|
| 5 | 33±2 dBm |
| 6 | 31±2 dBm |
| 7 | 29±2 dBm |
| 8 | 27±2 dBm |
| 9 | 25±2 dBm |
| 10 | 23±2 dBm |
| 11 | 21±2 dBm |
| 12 | 19±2 dBm |
| 13 | 17±2 dBm |
| 14 | 15±2 dBm |
| 15 | 13±2 dBm |
| 16 | 11±3 dBm |
| 17 | 9± 3dBm |
| 18 | 7±3 dBm |
| 19 | 5±3 dBm |
| | |

| TX Power control level | DCS1800 |
|---|---|
| 0 | 30±3 dBm |
| 1 | 28±3 dBm |
| 2 | 26±3 dBm |
| 3 | 24±3 dBm |
| 4 | 22±3 dBm |
| 5 | 20±3 dBm |
| 6 | 18±3 dBm |
| 7 | 16±3 dBm |
| 8 | 14±3 dBm |
| 9 | 12±4 dBm |
| 10 | 10±4 dBm |
| 11 | 8±4 dBm |
| 12 | 6±4 dBm |
| 13 | 4±4 dBm |
| 14 | 2±5 dBm |
| 15 | 0±5 dBm |

| TX Power control level | PCS1900 |
|---|---|
| 0 | 30±3 dBm |
| 1 | 28±3 dBm |
| 2 | 26±3 dBm |
| 3 | 24±3 dBm |
| 4 | 22±3 dBm |
| 5 | 20±3 dBm |
| 6 | 18±3 dBm |
| 7 | 16±3 dBm |
| 8 | 14±3 dBm |
| 9 | 12±4 dBm |
| 10 | 10±4 dBm |
| 11 | 8±4 dBm |
| 12 | 6±4 dBm |
| 13 | 4±4 dBm |
| 14 | 2±5 dBm |
| 15 | 0±5 dBm |



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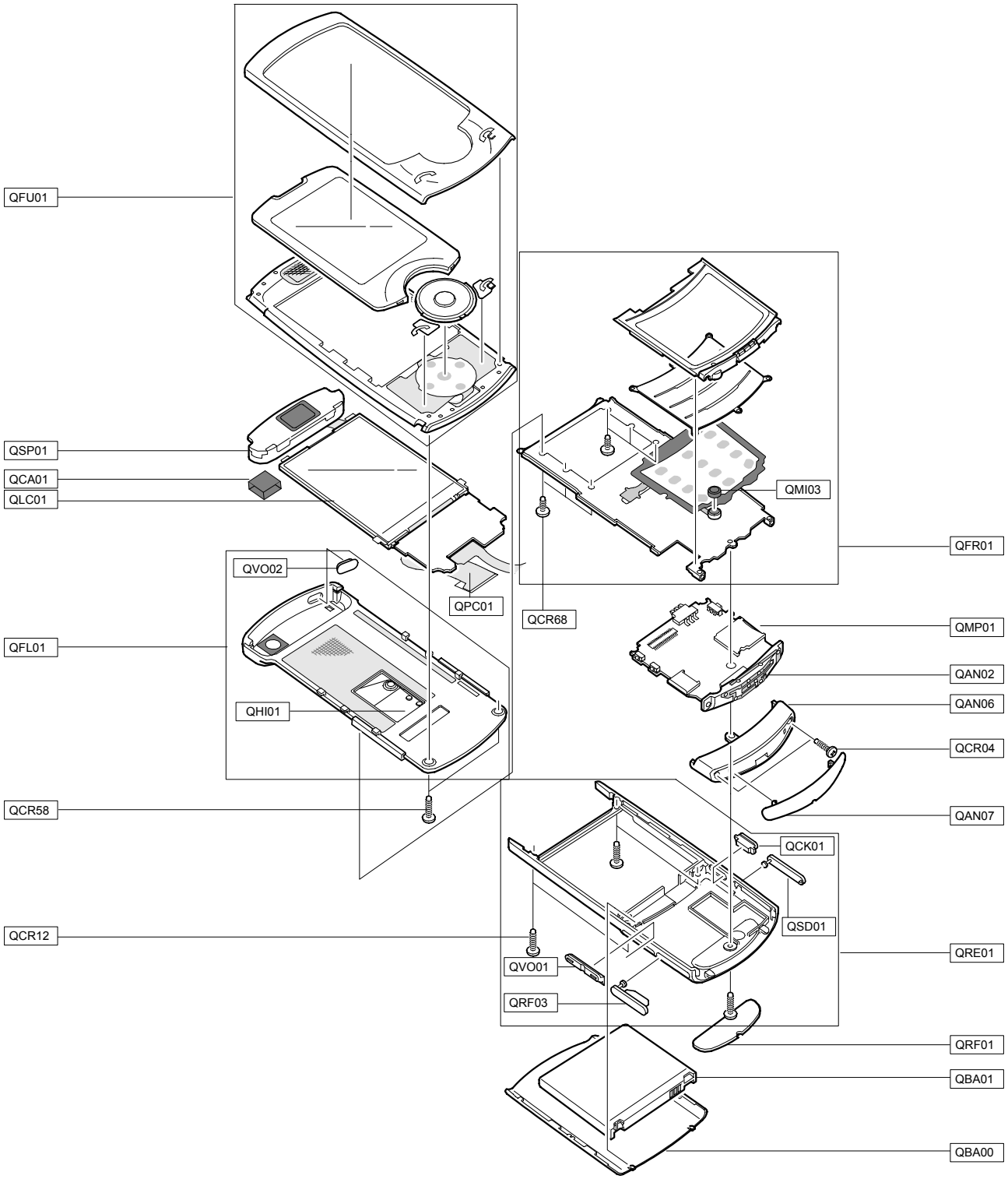
# 2. Exploded View and Parts List

## 2-1. Cellular phone Exploded View



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## 2-2. Cellular phone Parts list

| Design LOC | | Discirption | SEC CODE |
|---|---|---|---|
| QAN02 | | INTENNA-SGHU600 | GH42-01133A |
| QAN06 | | ASSY COVER-INTENNA | GH98-04083A |
| QAN07 | | PMO-INTENNA DUMMY | GH72-36571A |
| QBA00 | | ASSY COVER-BATTERY | GH98-04770A |
| QBA01 | | INNER BATTERY PACK-690MAH,BLK, | GH43-02834A |
| QCA01 | | UNIT-SGHU600 CAMERA | GH59-04163A |
| QCR04 | | SCREW-MACHINE | 6001-001479 |
| QCR12 | | SCREW-MACHINE | 6001-001530 |
| QCR58 | | SCREW-MACHINE | 6001-001870 |
| QCR68 | | SCREW-MACHINE | 6001-002067 |
| QFU01 | | ASSY COVER-SLIDE UPPER | GH98-03317A |
| QLC01 | | LCD-MODULE SGHU600 | GH07-01087A |
| QMP01 | | PBA MAIN-SGHU600 | GH92-03347A |
| QPC01 | | MEA-SLIDE FPCB KIT | GH97-07452A |
| QRF01 | | PMO-COVER RF | GH72-36573A |
| QSP01 | | UNIT-SGHU600 SPEAKER MODULE | GH59-04046A |
| QFR01 | | ASSY CASE-FRONT PLATE | GH98-04811A |
| | QMI03 | RMO-RUBBER MIC HOLDER | GH73-08776A |
| QFL01 | | ASSY COVER-SLIDE LOWER | GH98-04051A |
| | QHI01 | ASSY HINGE-SLIDE | GH98-03319A |
| | QVO02 | PMO-POWER KEY | GH72-38555A |
| QRE01 | | ASSY CASE-REAR | GH98-04052A |
| | QCK01 | PMO-KEY CAMERA | GH72-37516A |
| | QRF03 | PMO-COVER EAR/IF | GH72-36576A |
| | QSD01 | PMO-COVER MICRO SD | GH72-36575A |
| | QVO01 | PMO-VOLUME KEY | GH72-37517A |



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| Discirption | SEC CODE |
|---|---|
| BAG PE | 6902-000297 |
| CBF INTERFACE-DLC,X830,BLK,PCB | GH39-00720A |
| ADAPTOR-SGHE690,BLK,EU,A_TYPE | GH44-01361A |
| S/W CD-SGHU600 PC STUDIO 3.1 | GH46-00384A |
| UNIT-SGHU600,HEADSET,BLK,A TYP | GH59-04446A |
| LABEL(R)-WATER SOAK | GH68-09361A |
| LABEL(P)-OPEN MP3 | GH68-11246A |
| LABEL(R)-MAIN(FRANCE) | GH68-14054F |
| MANUAL USERS-EU FRENCH | GH68-14139A |
| BOX(P)-UNIT MAIN(EU) | GH69-05115A |
| CUSHION-CASE TA2 MA2 | GH69-05116A |
| RMO-RUBBER TACT SWITCH | GH73-09461A |
| MPR-TAPE PBA A | GH74-16066A |
| MPR-VINYL BOHO MAIN WINDOW | GH74-30725A |
| MPR-INSU TAPE LCD PCB | GH74-30734A |
| MPR-TAPE 3X4 KEY IN | GH74-30763A |
| MPR-TAPE C2C IN | GH74-30764A |
| MPR-INSU TAPE | GH74-30765A |
| MPR-GASK TAPE | GH74-30766A |
| MPR-VINYL BOHO KEY SUB | GH74-30847A |
| MPR-VINYL BOHO MAIN WINDOW 2 | GH74-31274A |
| MPR-INSU TAPE SPK MODULE | GH74-31527A |
| MPR-ELEC TAPE | GH74-31528A |
| MPR-TAPE BATTERY ROOM | GH74-31712A |
| MPR-ELEC TAPE | GH74-31714A |
| MPR-INSU TAPE | GH74-31884A |
| MPR-ELEC TAPE CON TO CON B | GH74-32141A |
| AS-LCD WINDOW TAPE | GH81-06188A |



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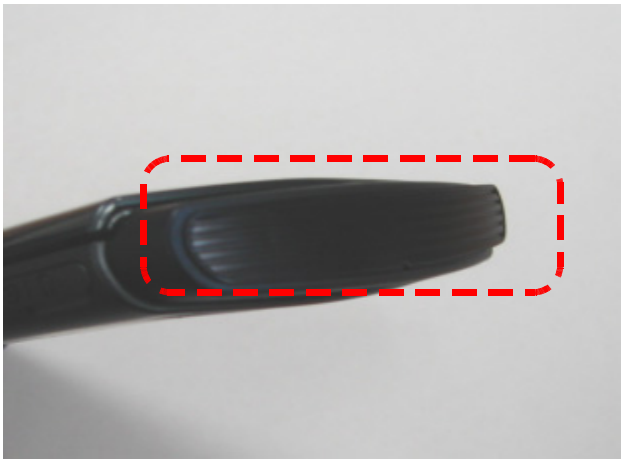
## 2-3. Disassembly

| 1 | 2 |
|---|---|
| |  |
| 1) Open the RF COVER from the REAR case | 1) Open the intenna cover dummy |
| **3** | **4** |
| | |
| 1) Take off IMEI lable | 1) UNSCREW the 5 POINTS |



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**5**

1) Unscrew the 2 POINTS from the intenna cover

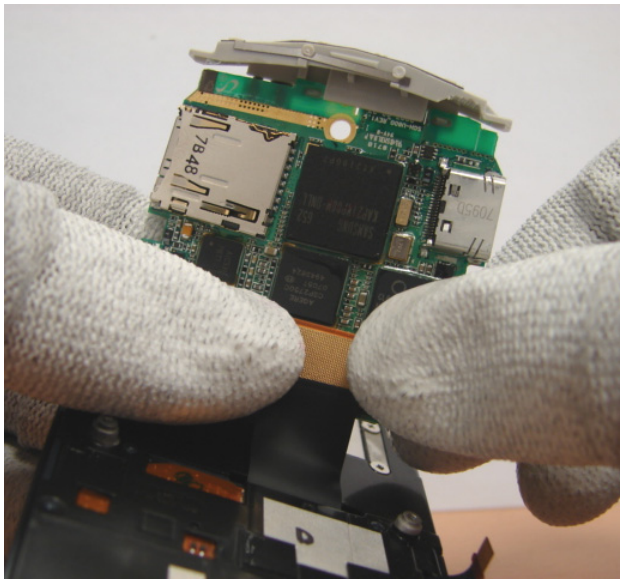
**6**

1) Take off the REAR case
2) Separate the Intenna cover from the PBA

**7**

1) Remove the number key tape
2) Open the actuator and take out the FPCB

**8**



1) Separate the PBA with taking off the slide FPCB on the other side



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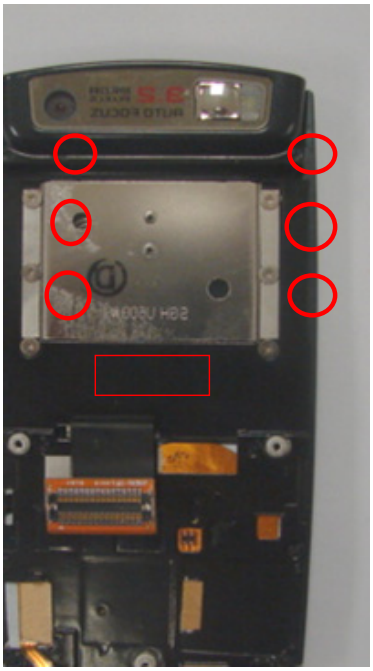
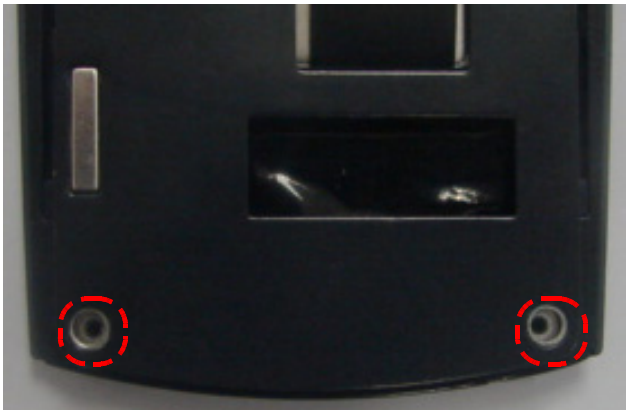
**9**



1) Unscrew the 6 POINTS
2) Saparate Front cover from the slide upper ass'y

**10**



1) UNSCREW the 2 POINTS

**11**

1) Open the Slide lower cover with lifting the case

**12**

1) Remove the Black shield tape on the components



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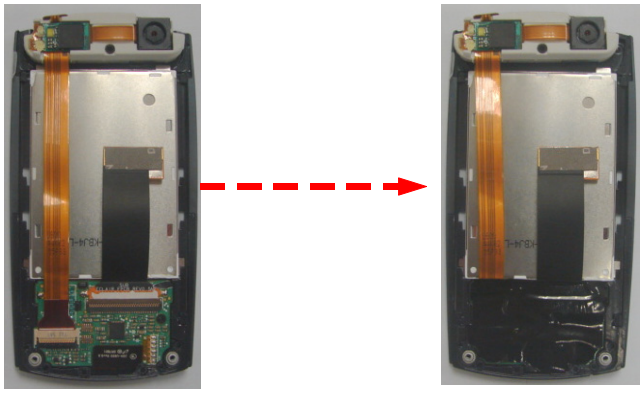
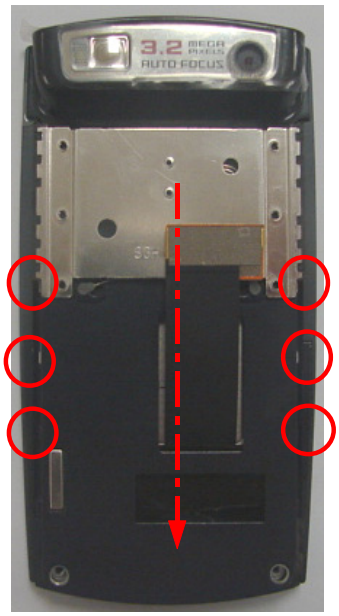
## 2-4. Assembly

**1**



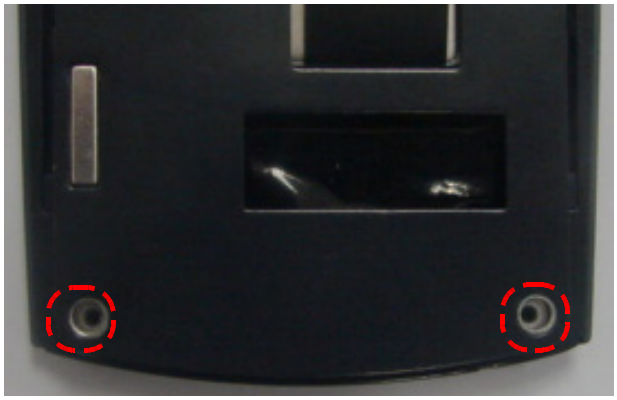
1) Put the black insulated tape on the components

**2**



1) Put the slide lower cover with checking the lockers and LCD FPCB
2) Push the cover following an arrow

**3**



1) SCREW the 2 POINTS

**4**

1) Put the front cover on the slide ass'y
2) Check the slide FPCB is right
3) SCREW the 6 POINTS



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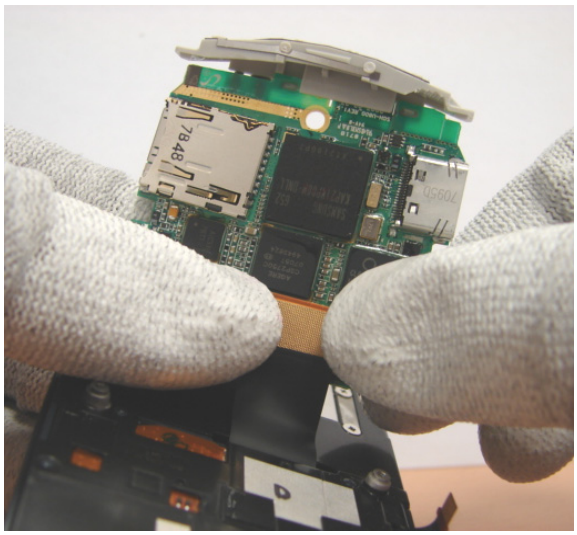
**5**



1) Let the slide FPCB in the main board socket
   - The connector must be firmly pressed

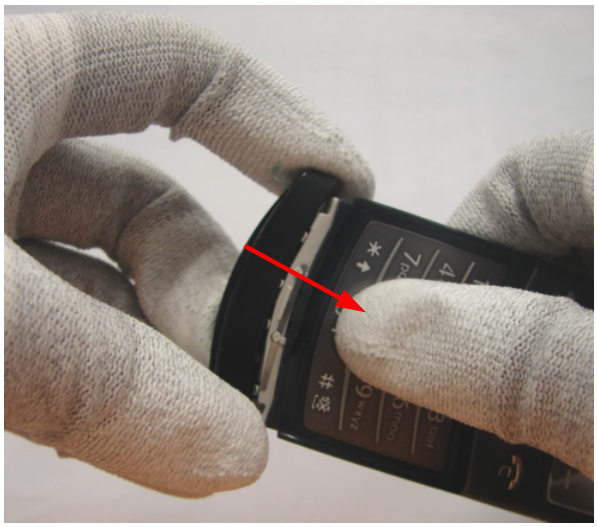
**6**

1) PUT the PBA on the cover
- check the Front Damper

**7**

1) Insert the numeric key FPCB
2) Put the insulate tape on the connector.

**8**



1) Put the intenna cover
   - Handle with case, the intenna could be damaged



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**9**

1) Combine the REAR cover with checking the locker
2) Press the connector to lock the cover

**10**

1) SCREW the 5 POINTS

**11**

1) SCREW the 2 POINTS

**12**

1) Set the IMEI lable



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**13**

1) Combine the REAR cover with checking the locker
2) Press the connector to lock the cover

**14**

1) SCREW the 5 POINTS



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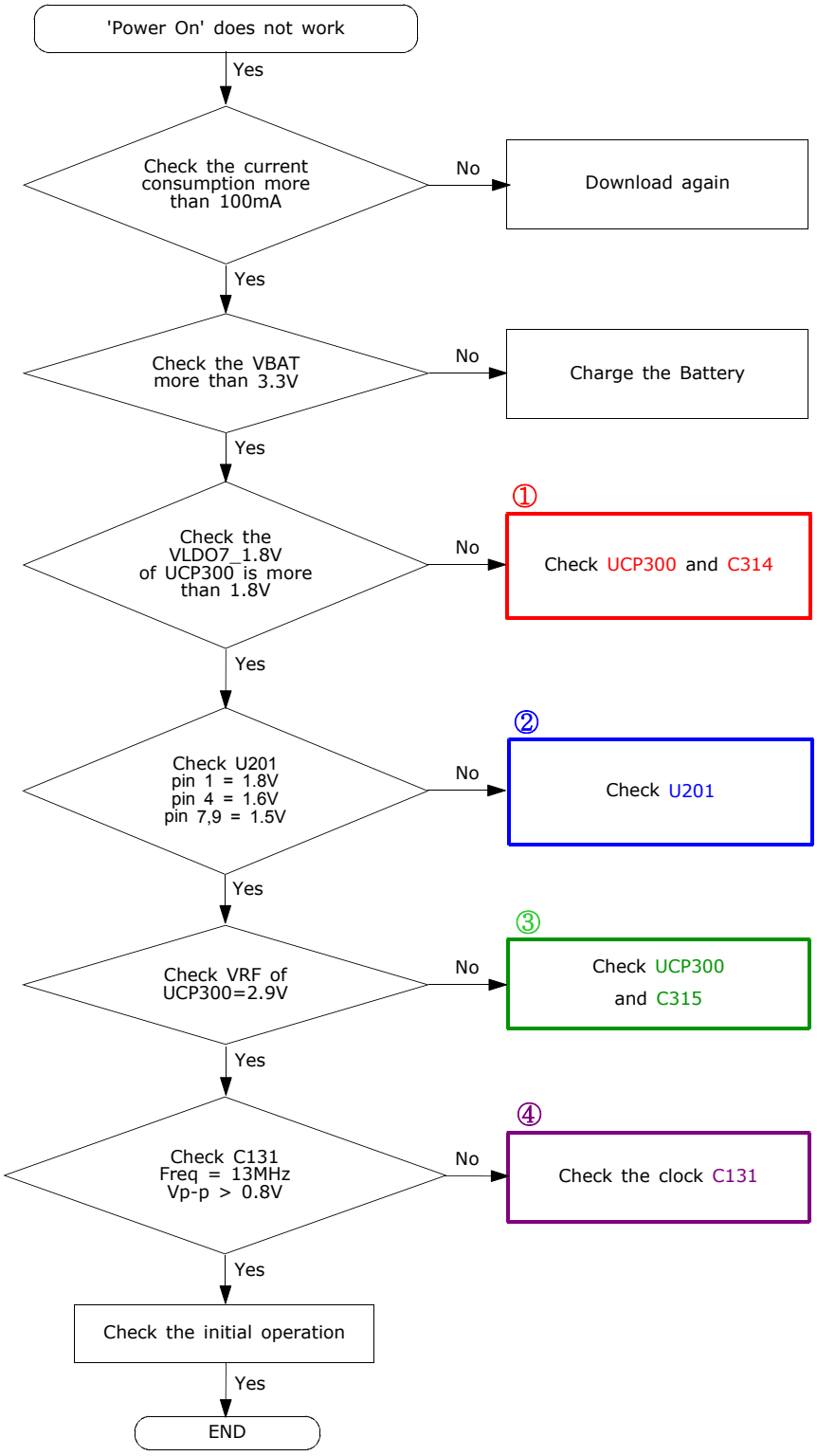
# 3. Flow Chart of Troubleshooting

## 3-1 BASEBAND

### 3-1-1. Power ON



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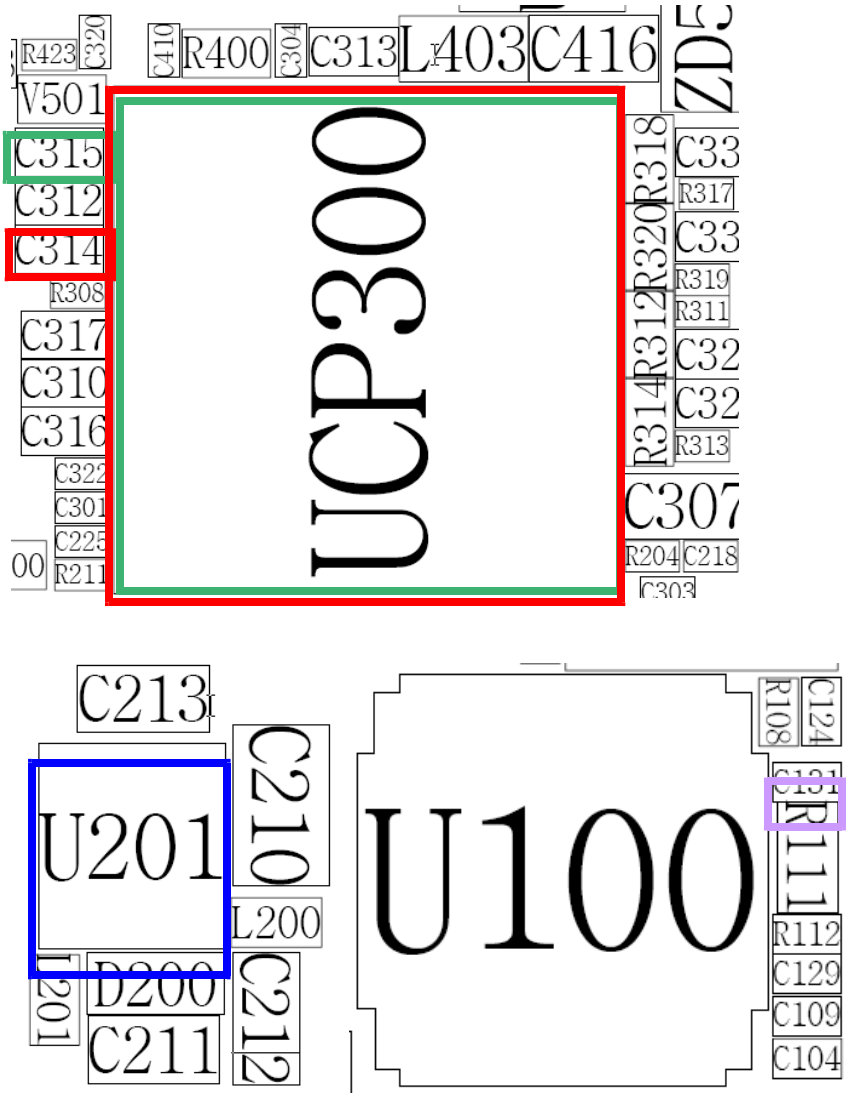




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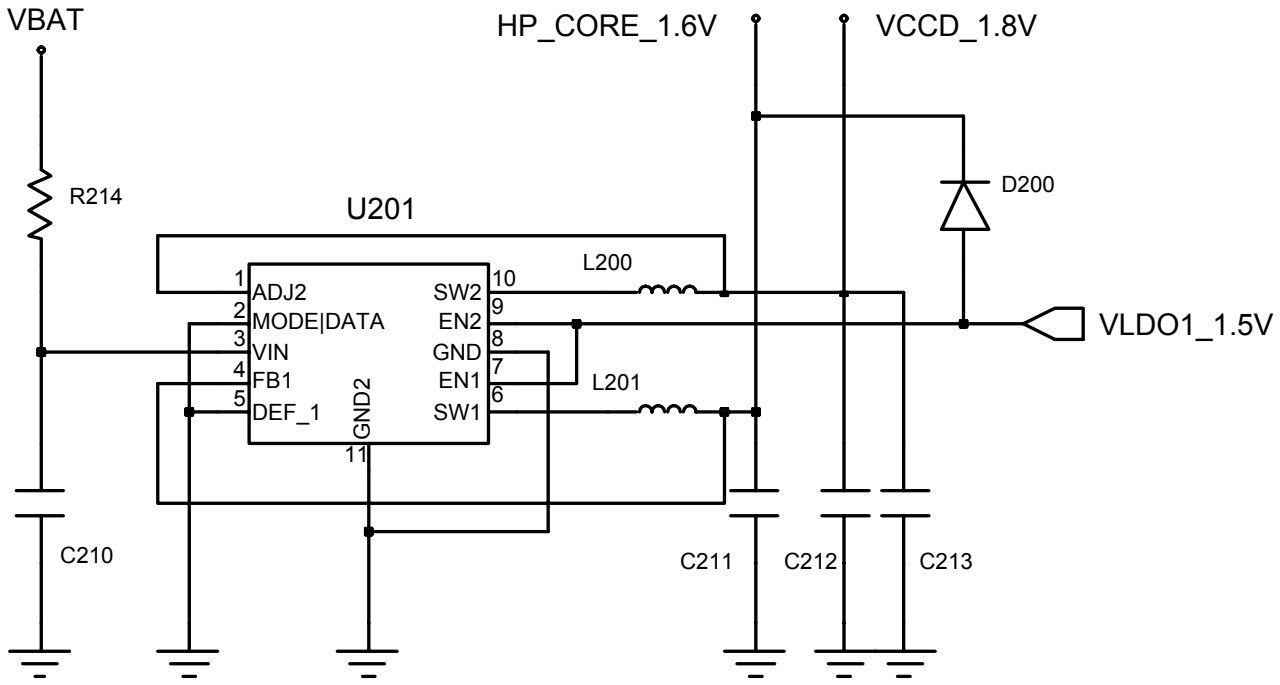




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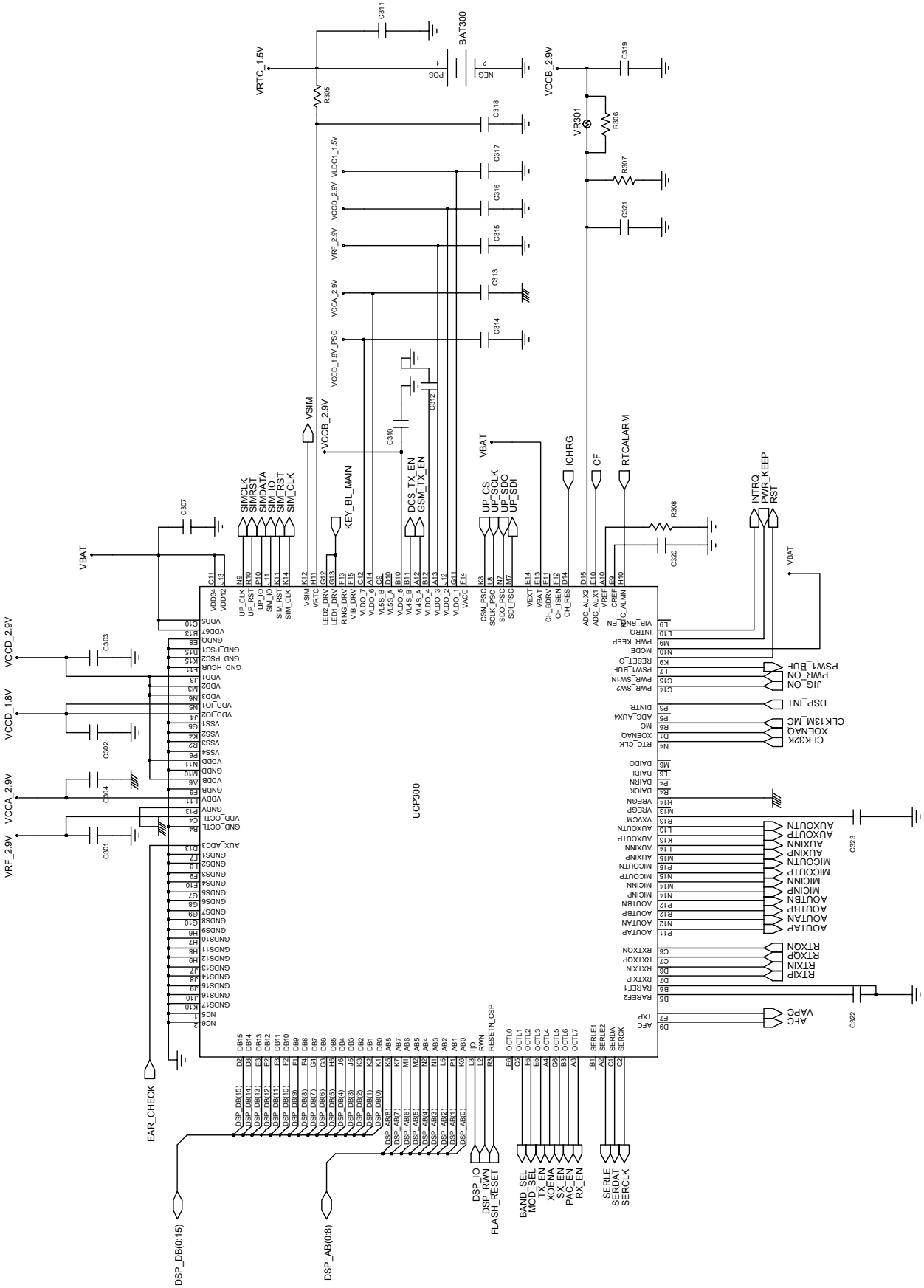




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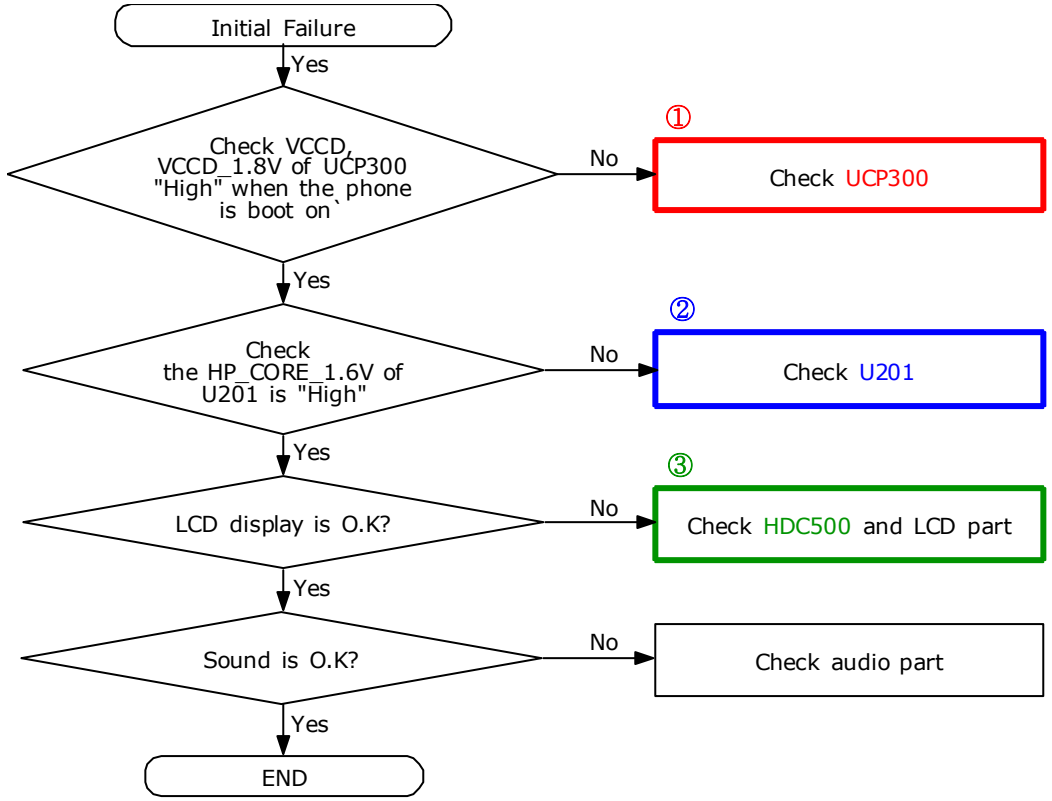
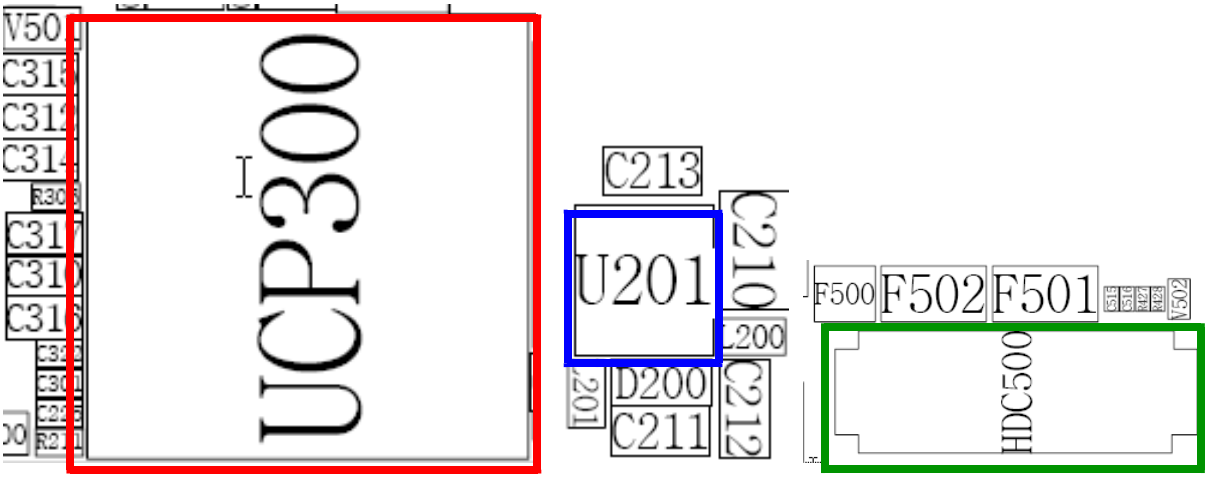
## 9-2-2. Initial



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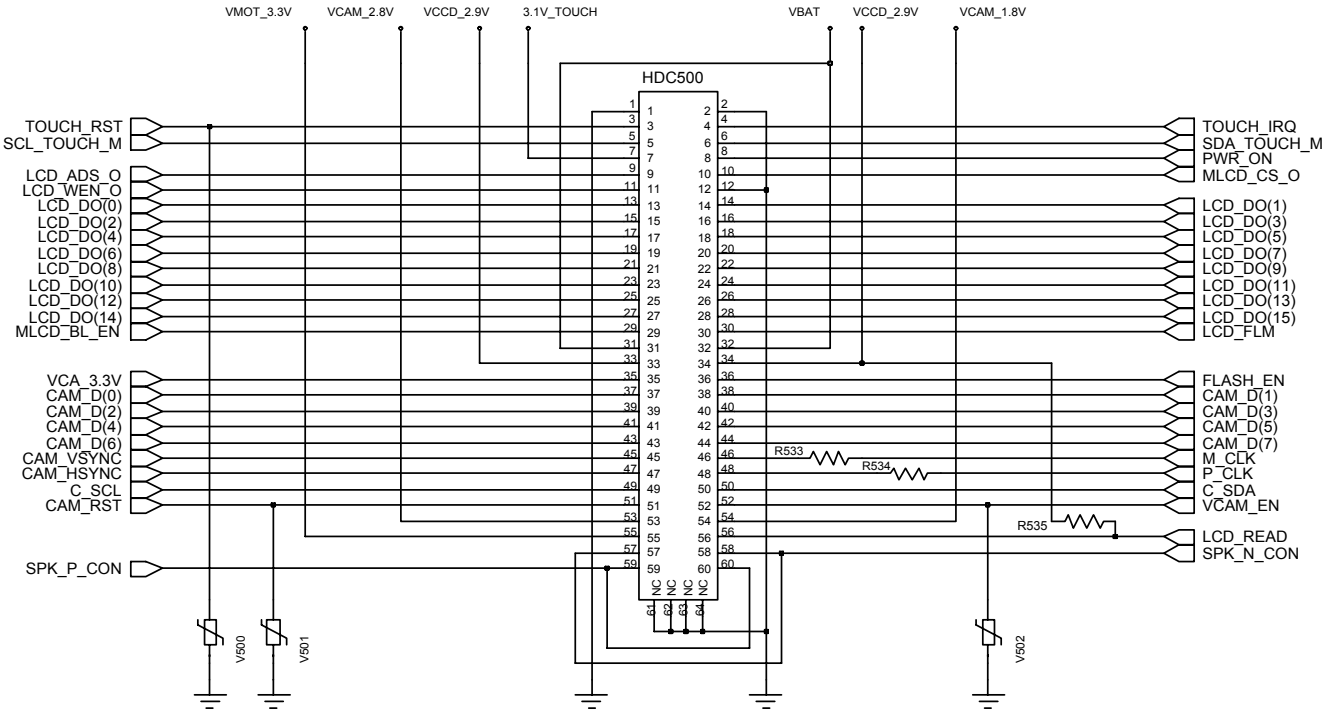




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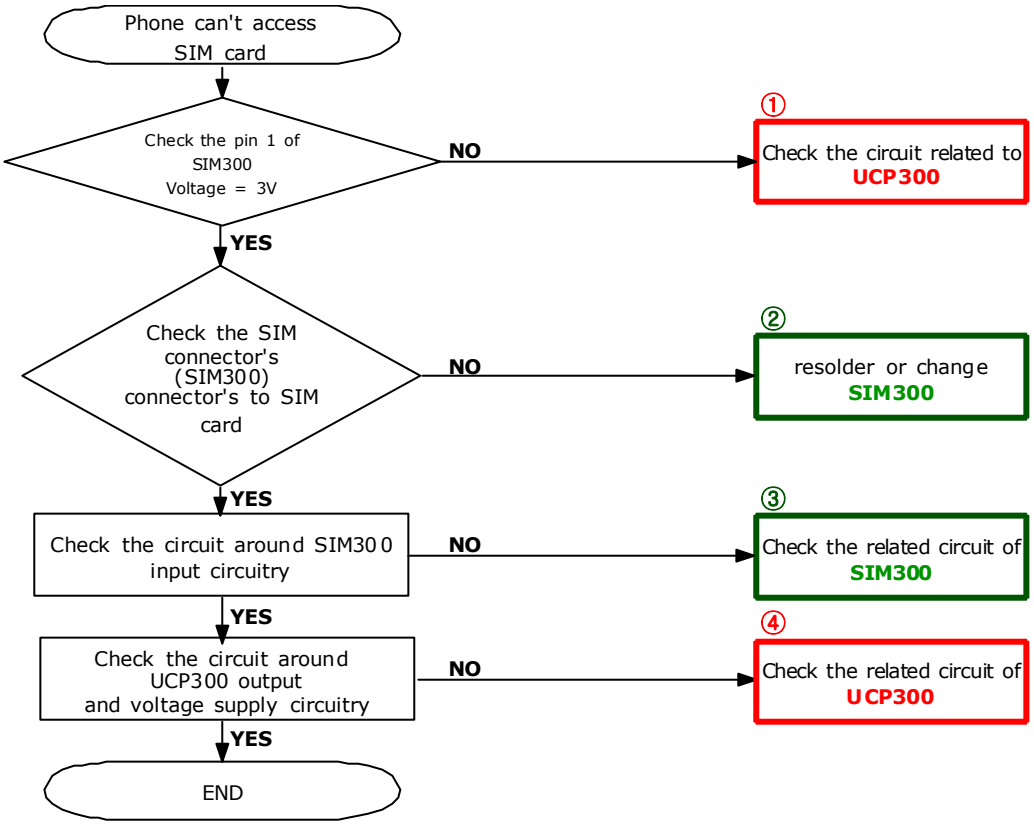
## 3-1-3. Sim Part



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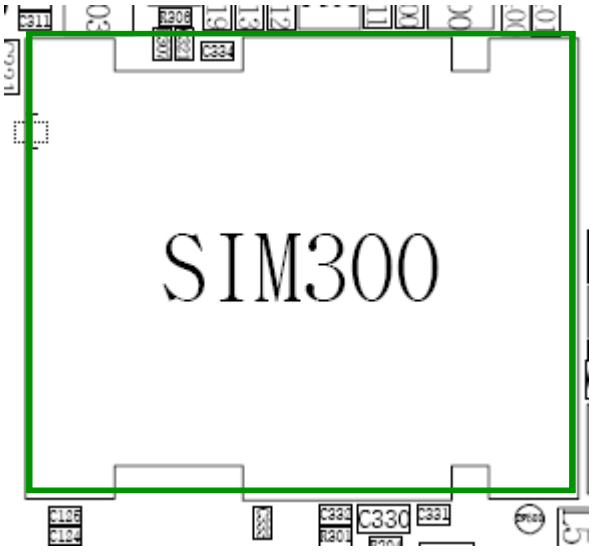

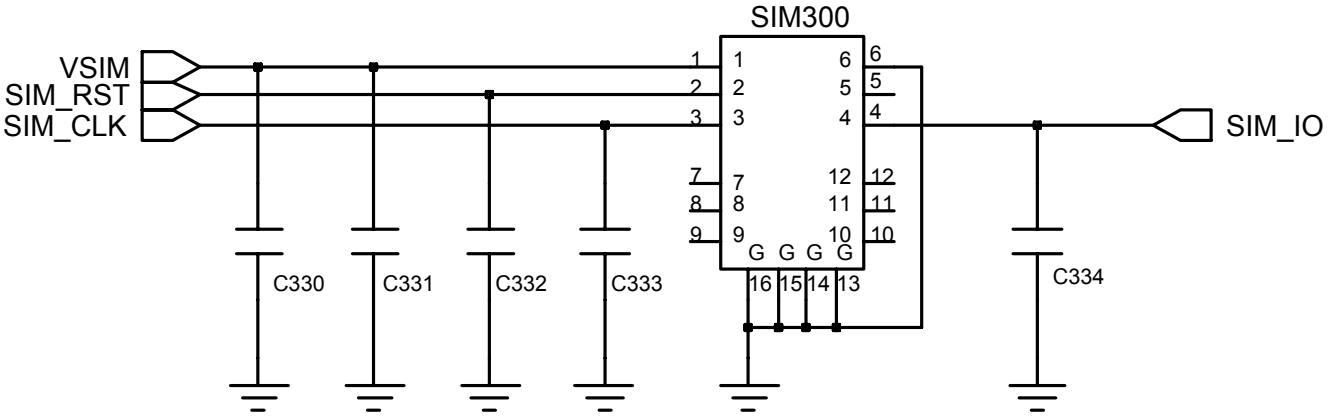




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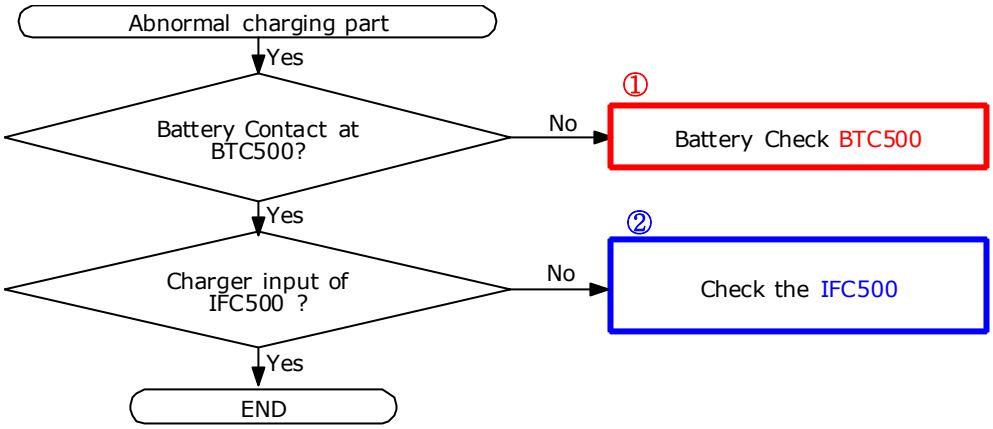
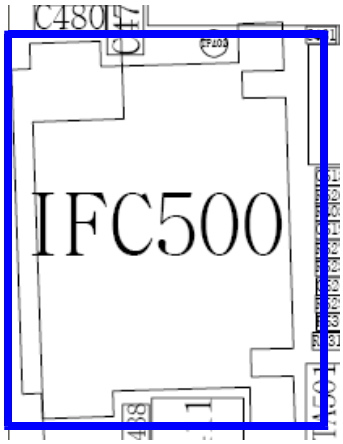
## 3-1-4. Charging Part



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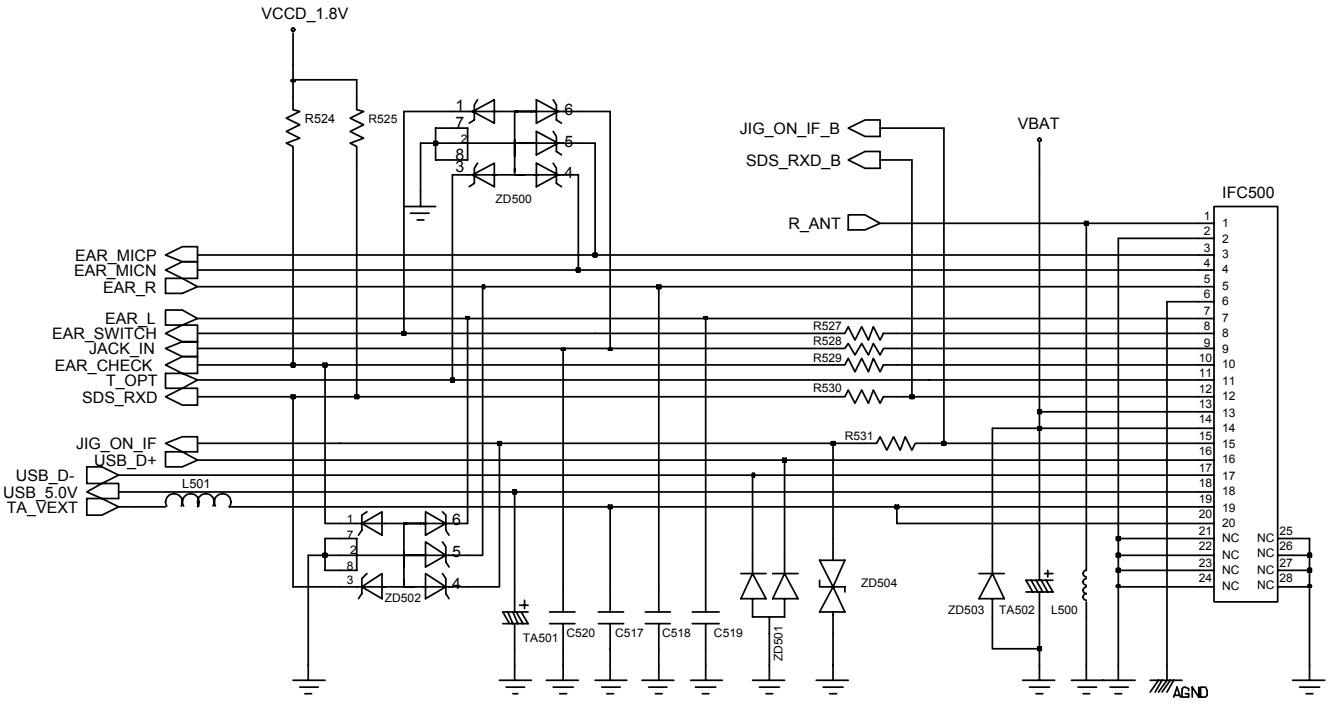


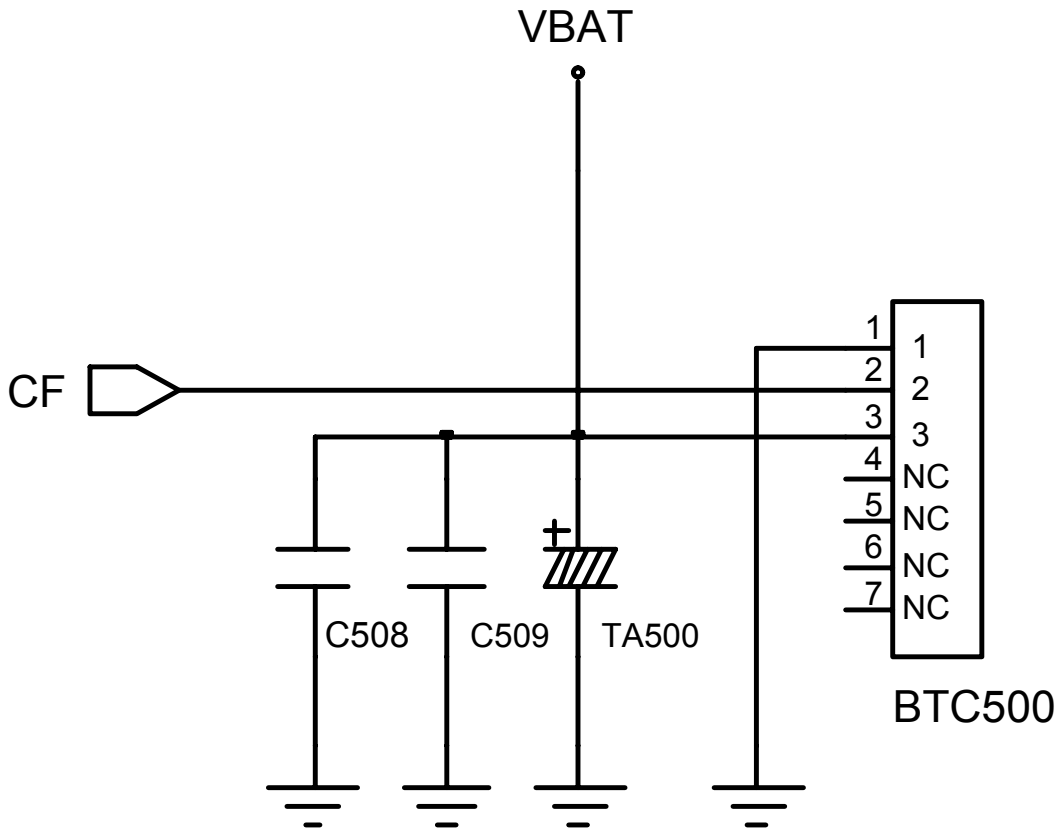




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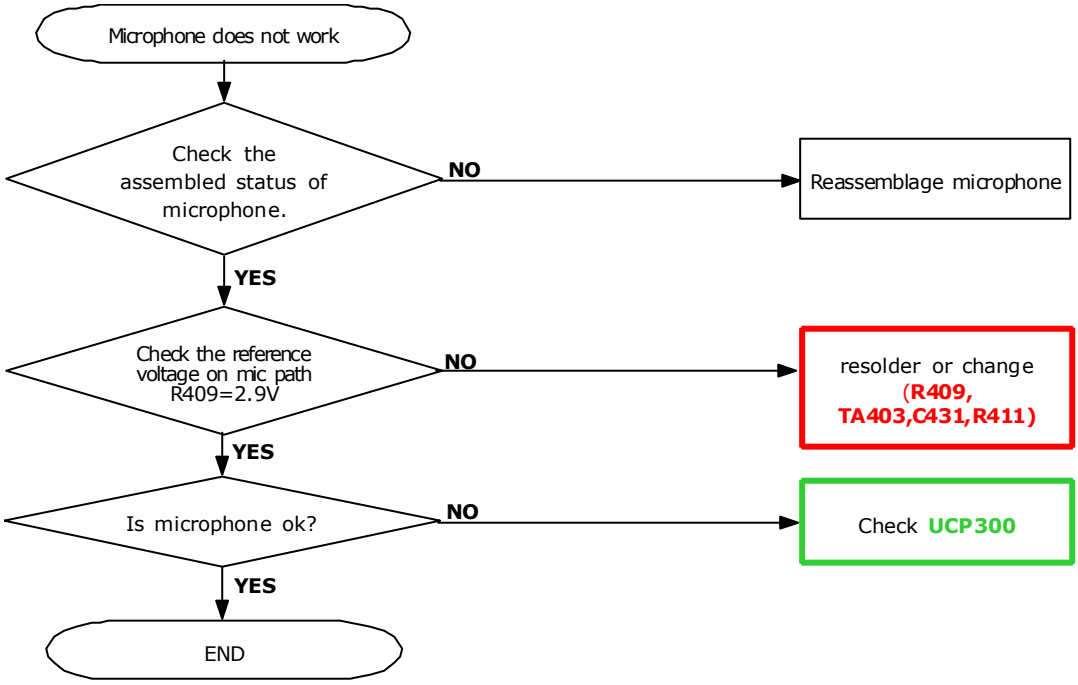
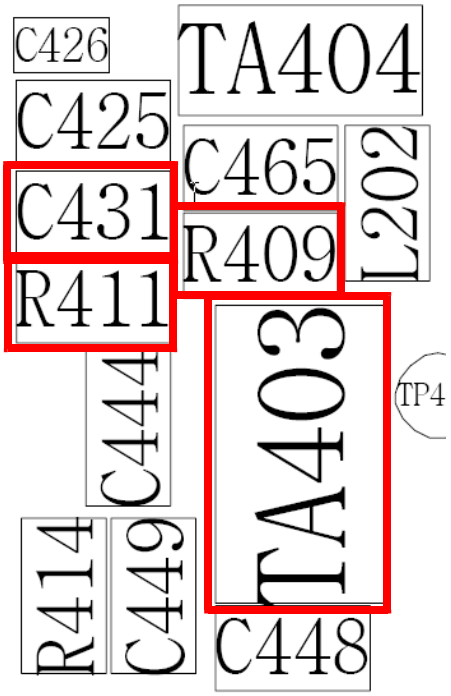
## 3-1-5. Microphone Part



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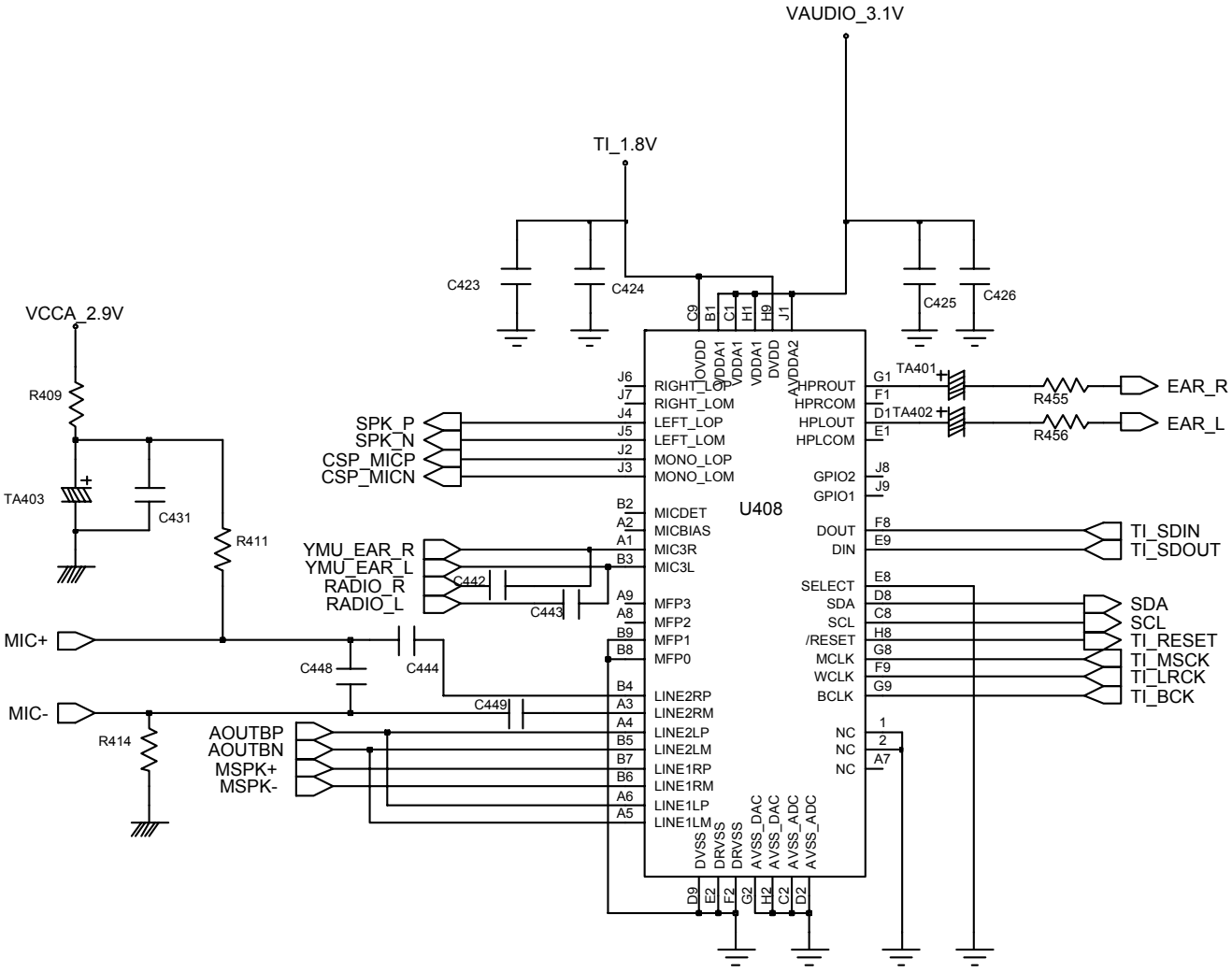


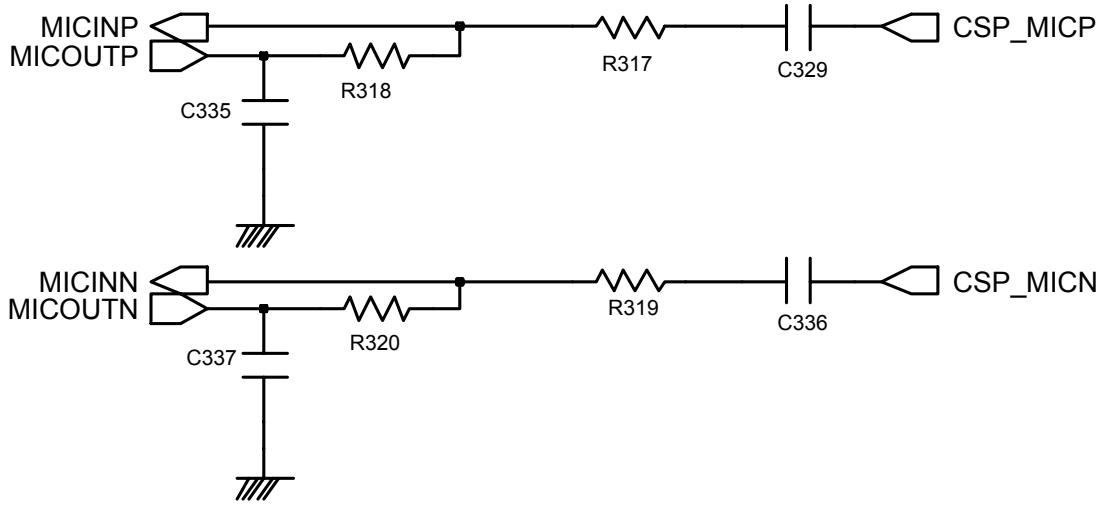




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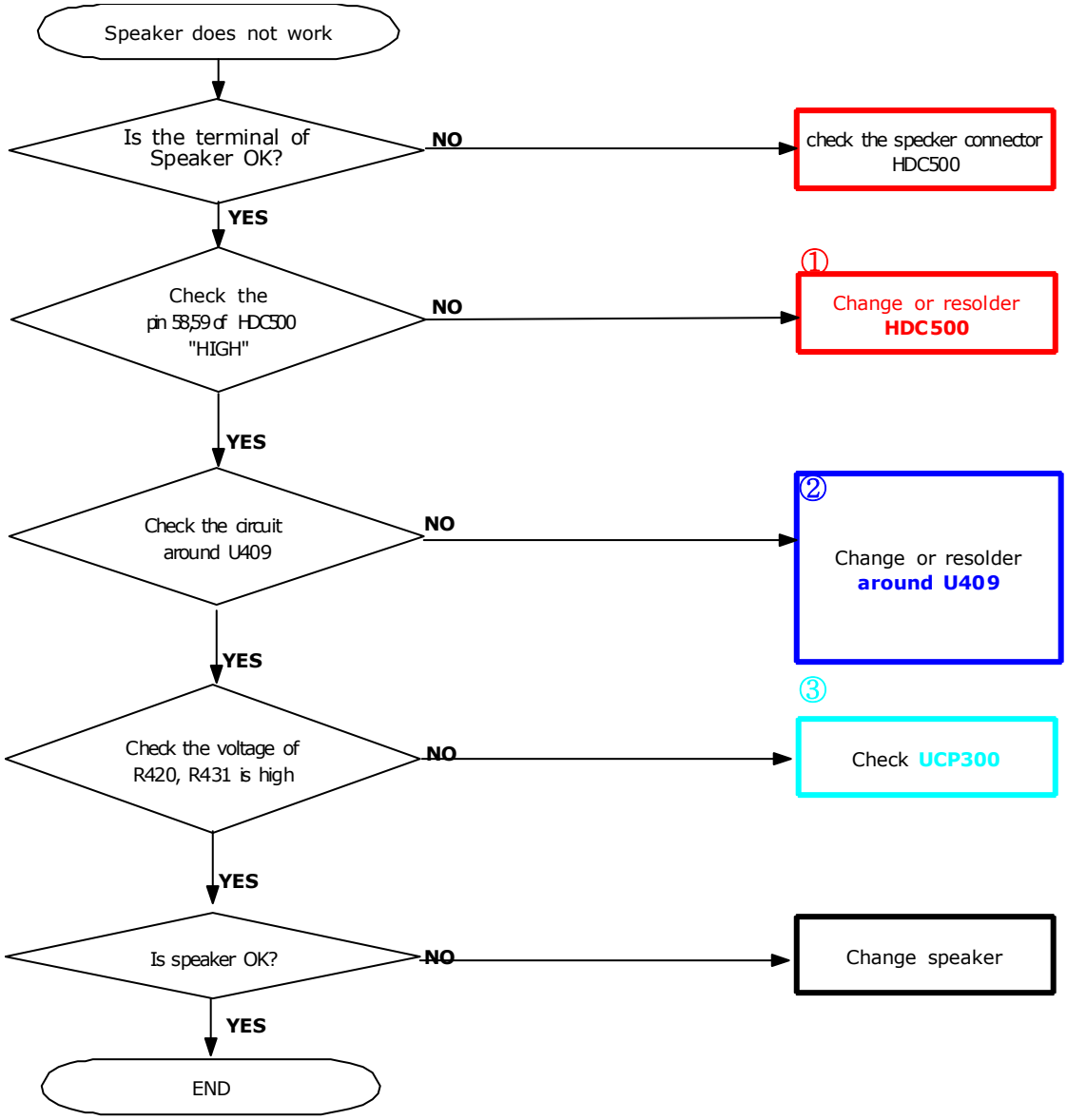
## 3-1-6. Speaker Part



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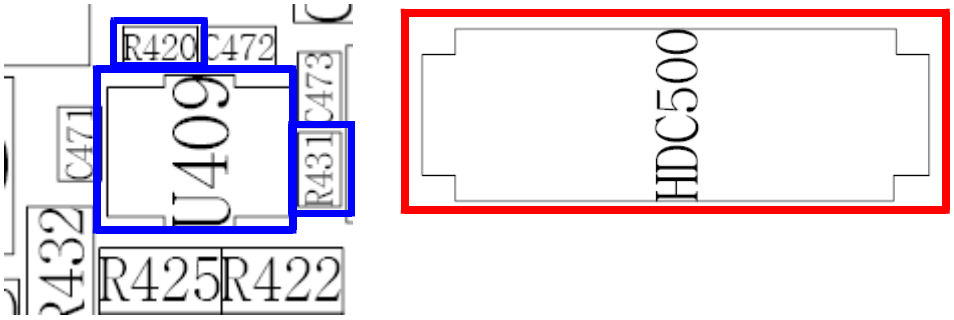


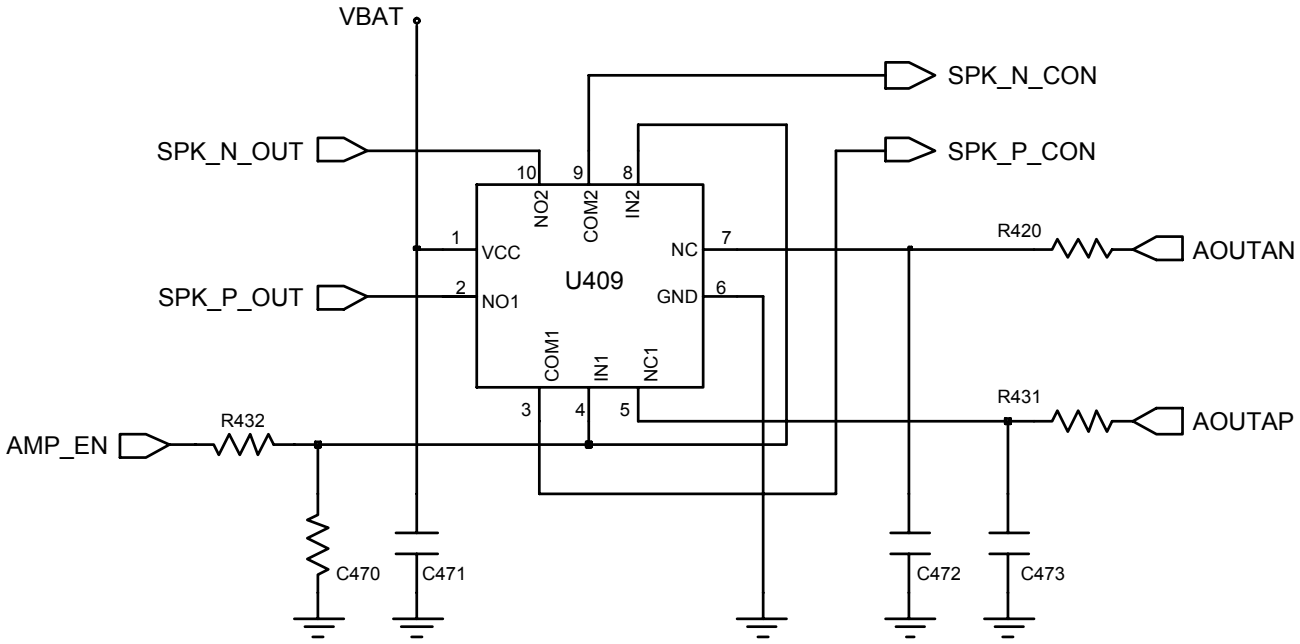




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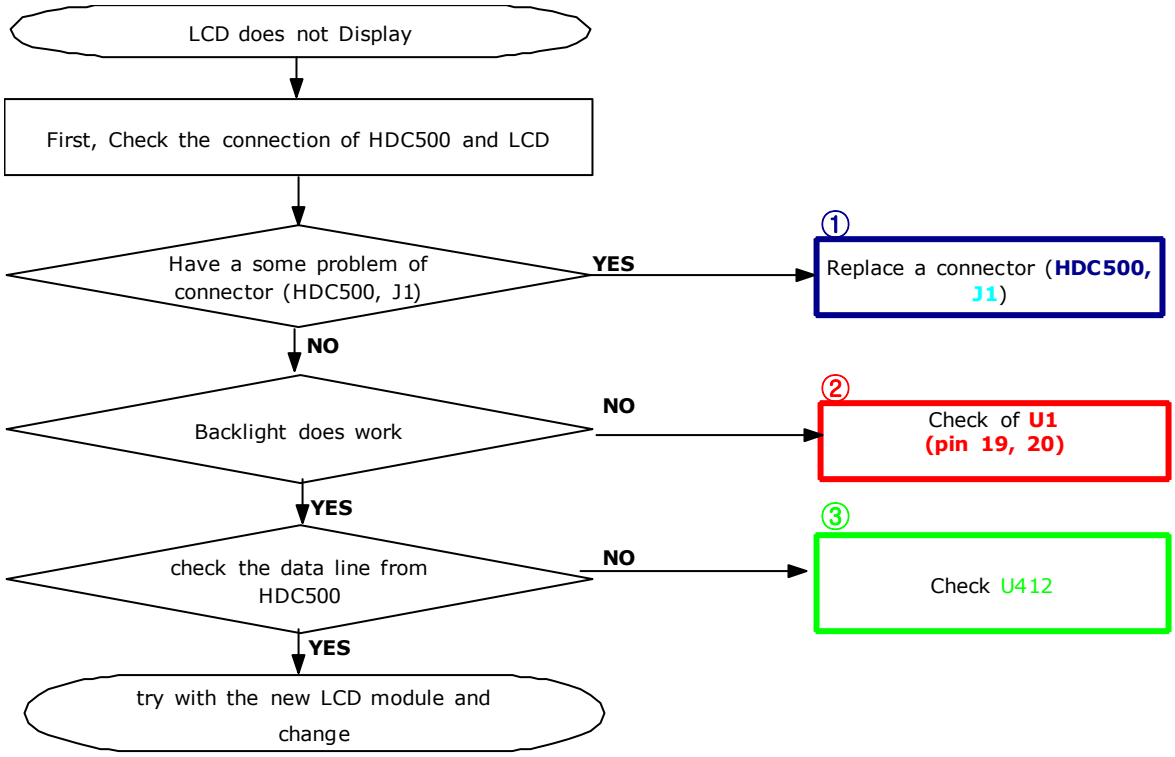
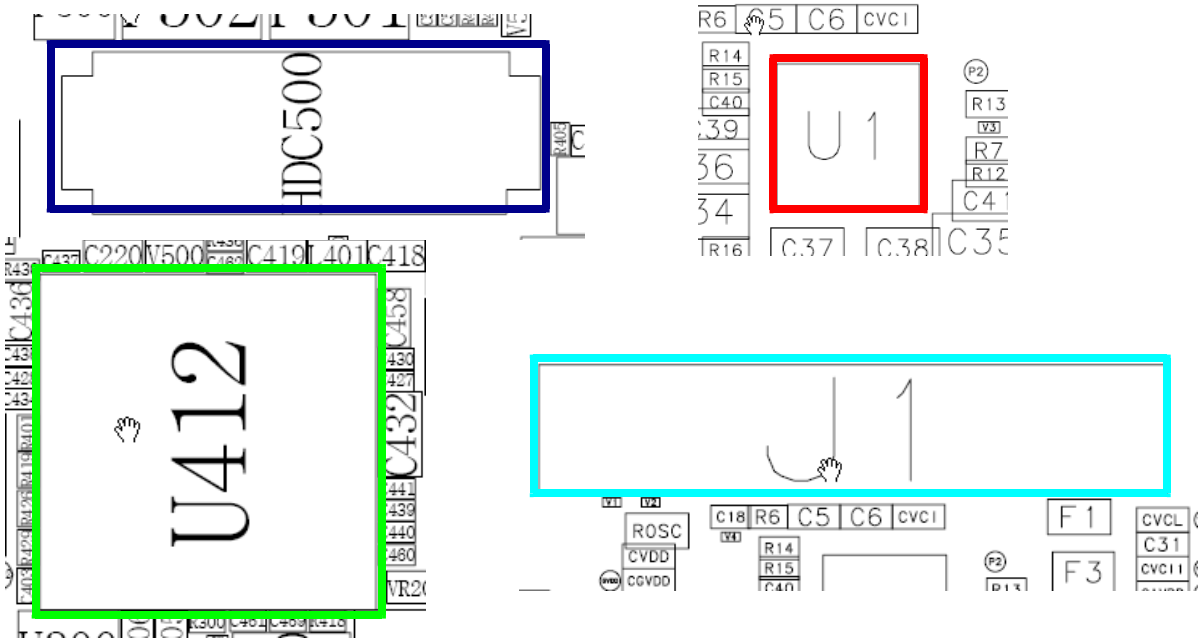
## 3-1-7. LCD



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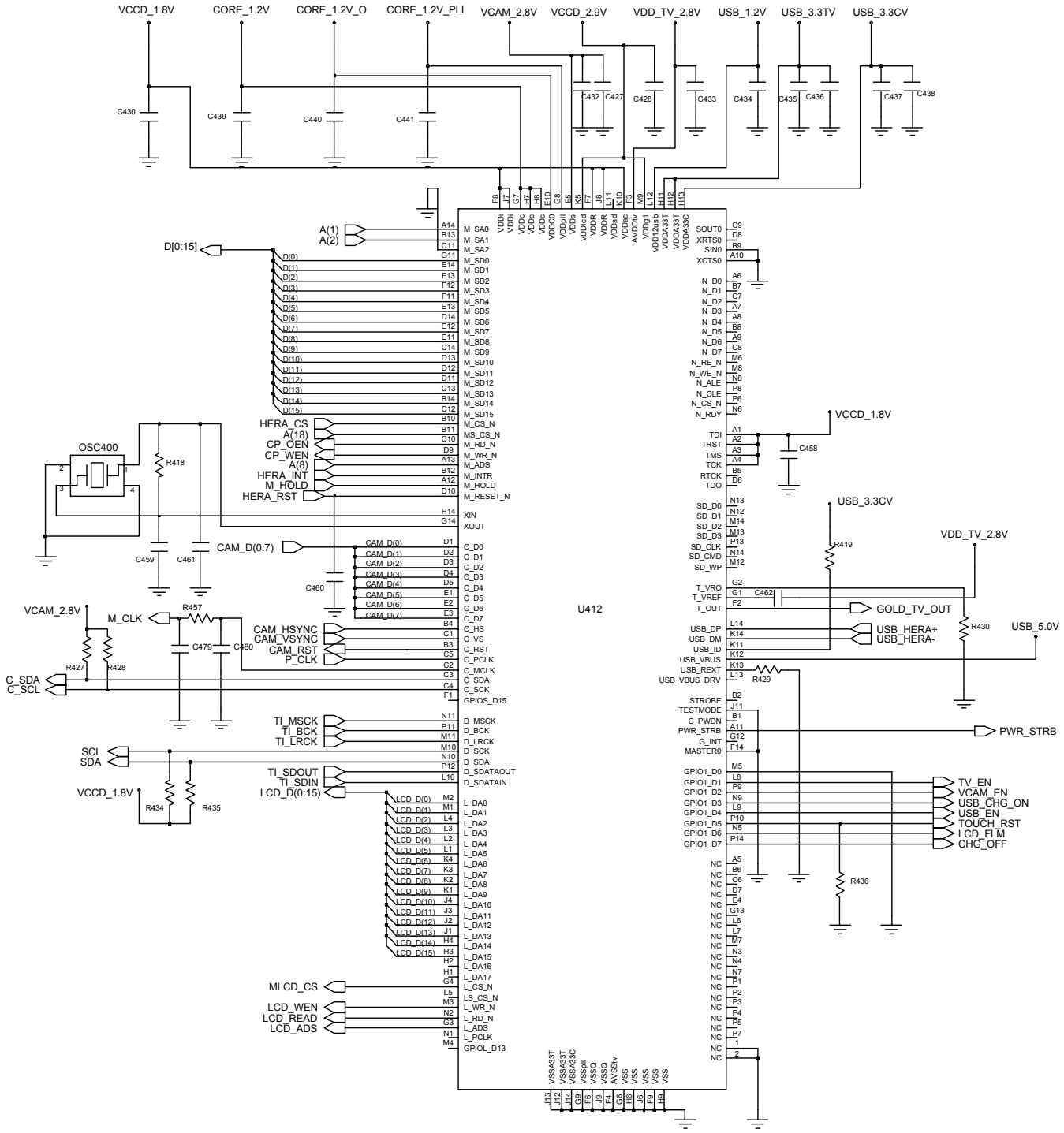




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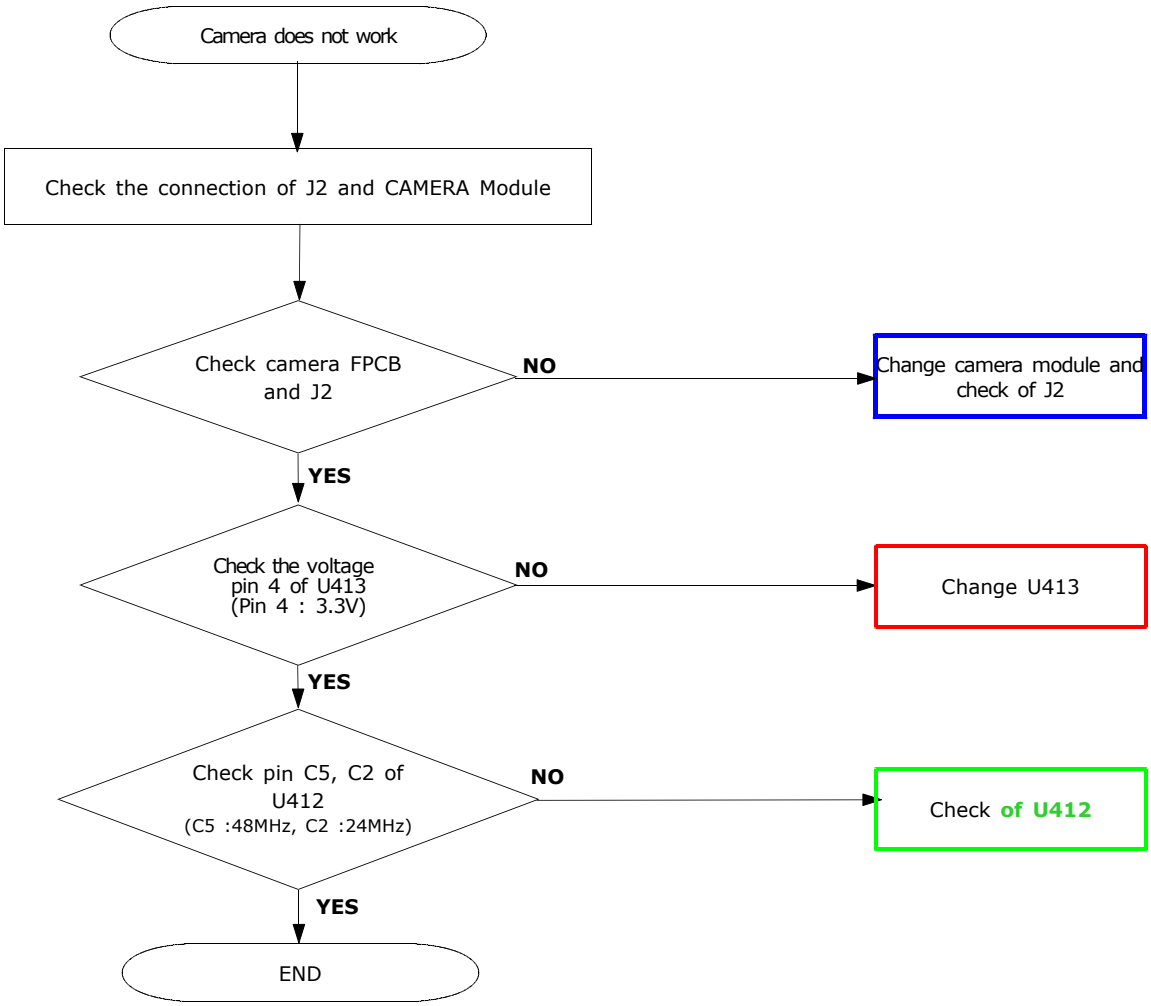
## 3-1-8. Camera



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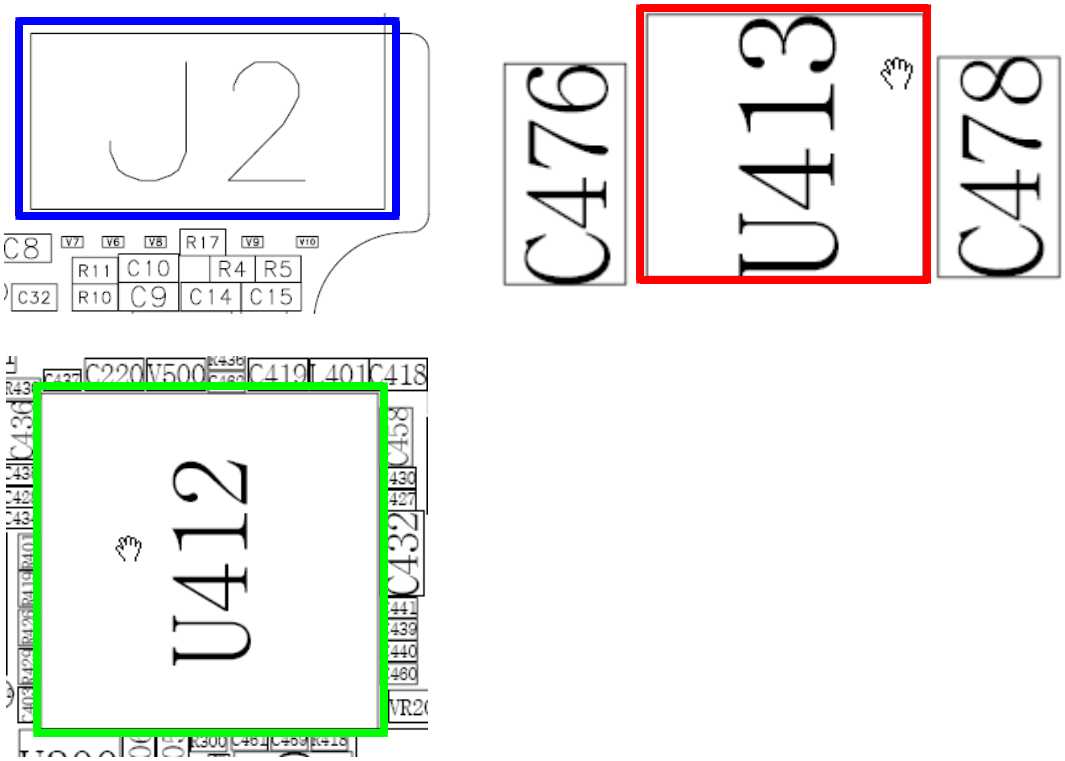


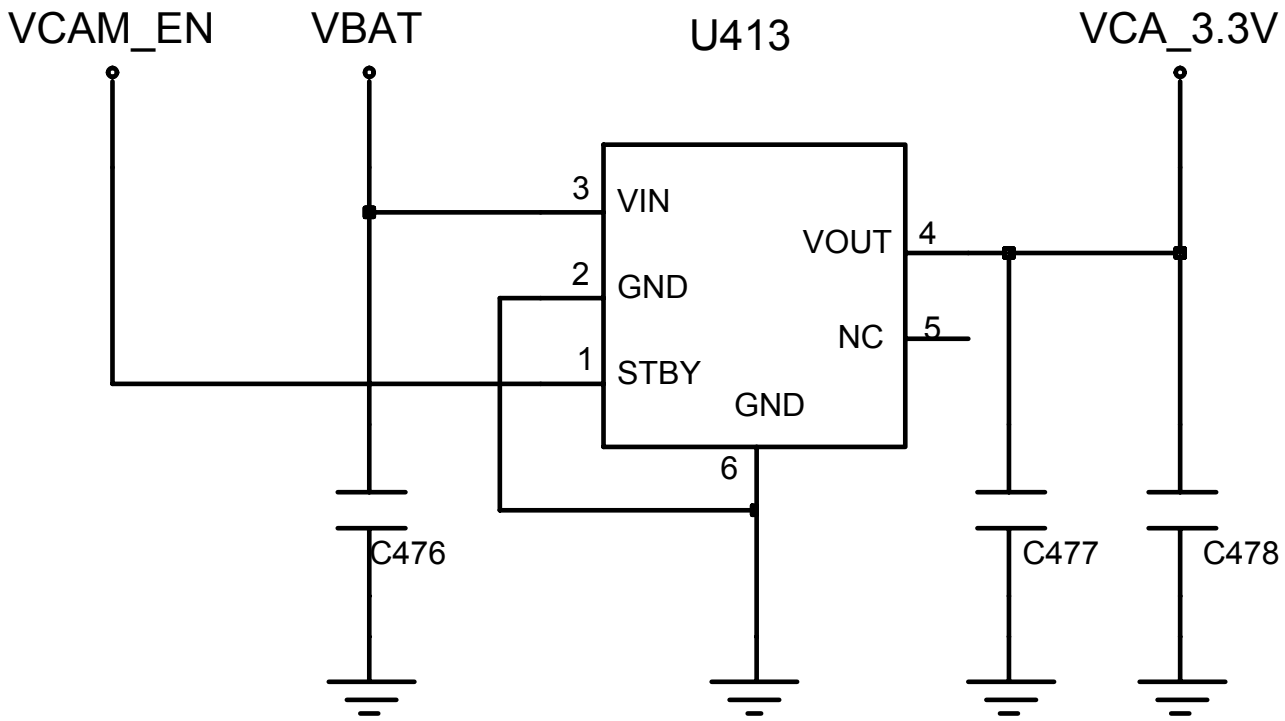




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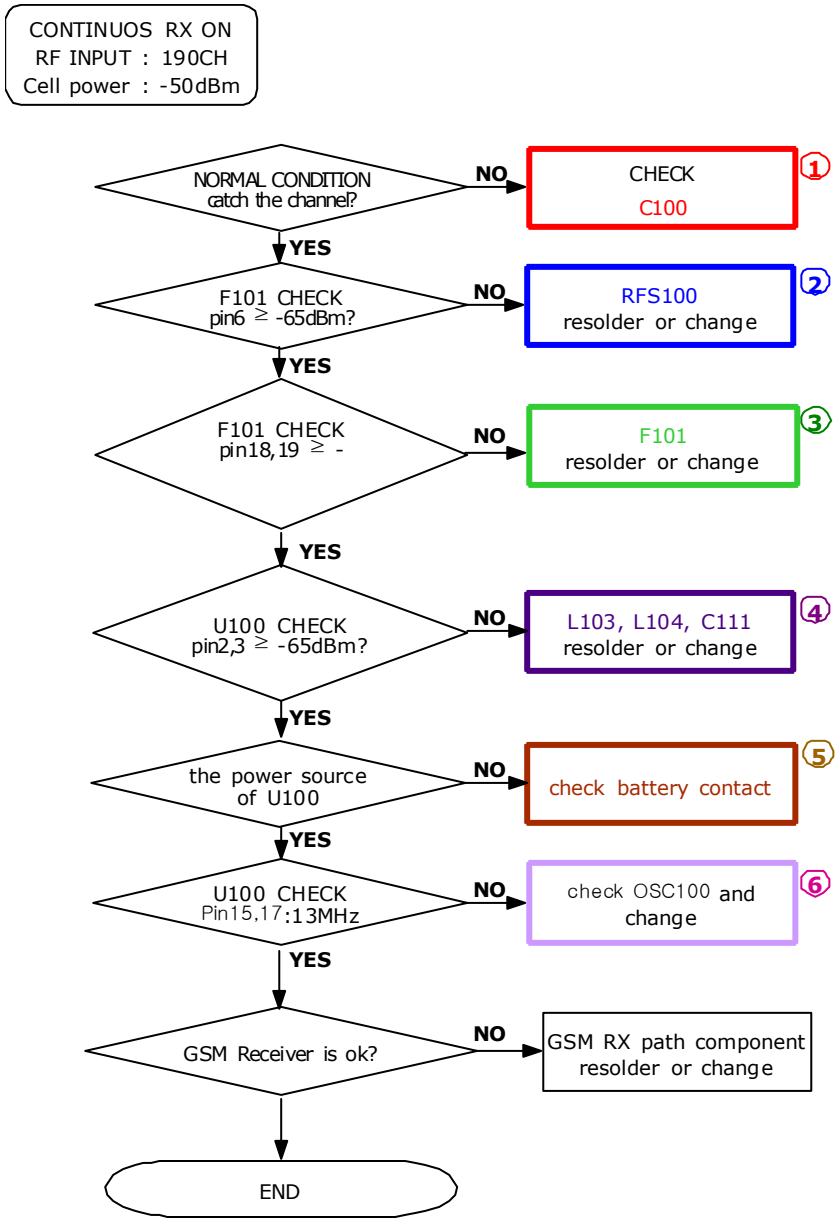
# 3-2. RF

## 3-2-1. GSM850 Receiver



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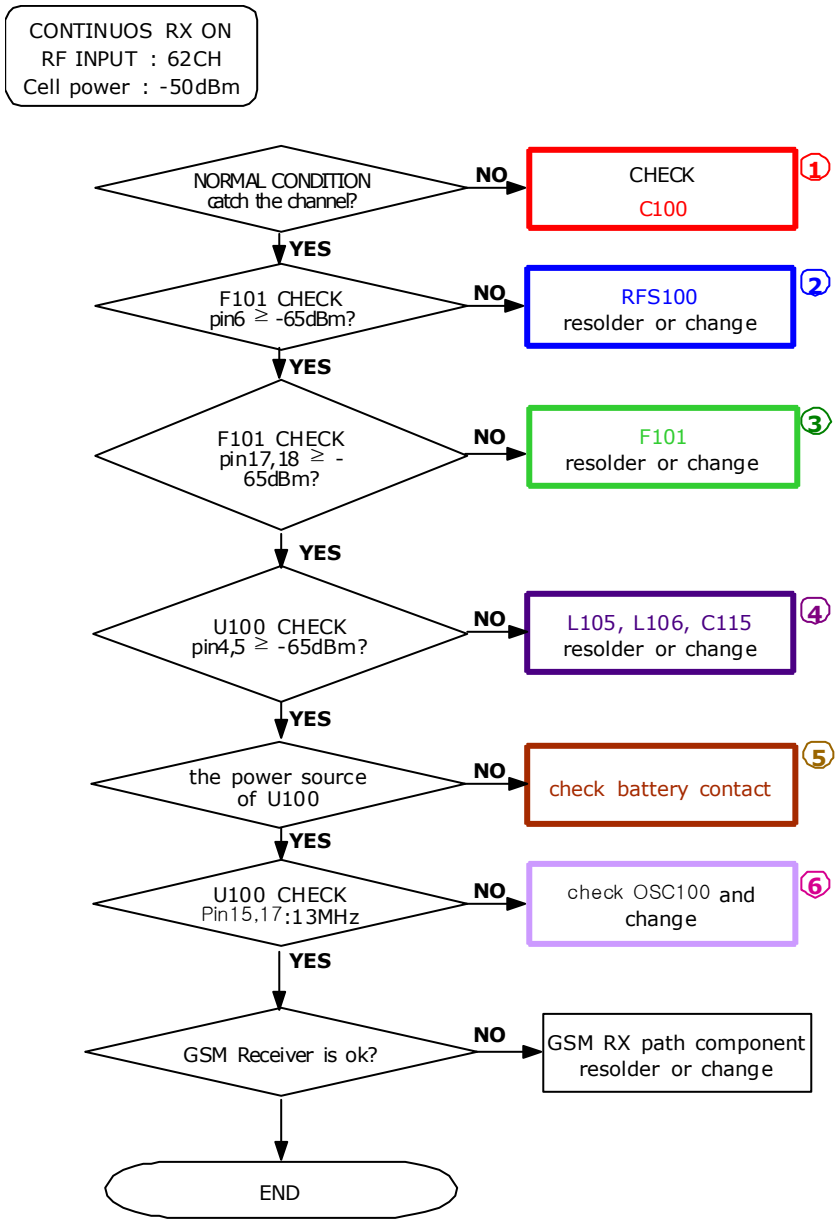
## 3-2-2. GSM900 Receiver



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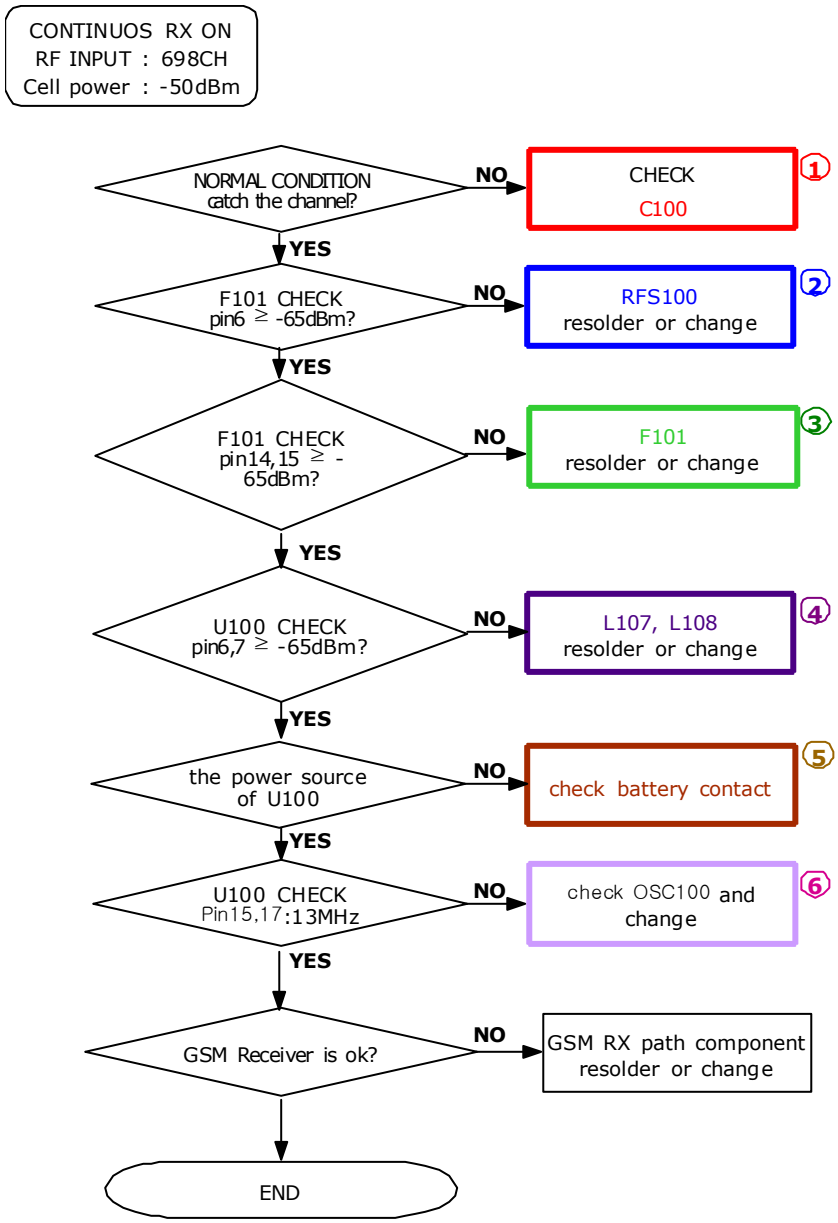
## 3-2-3. DCS Receiver



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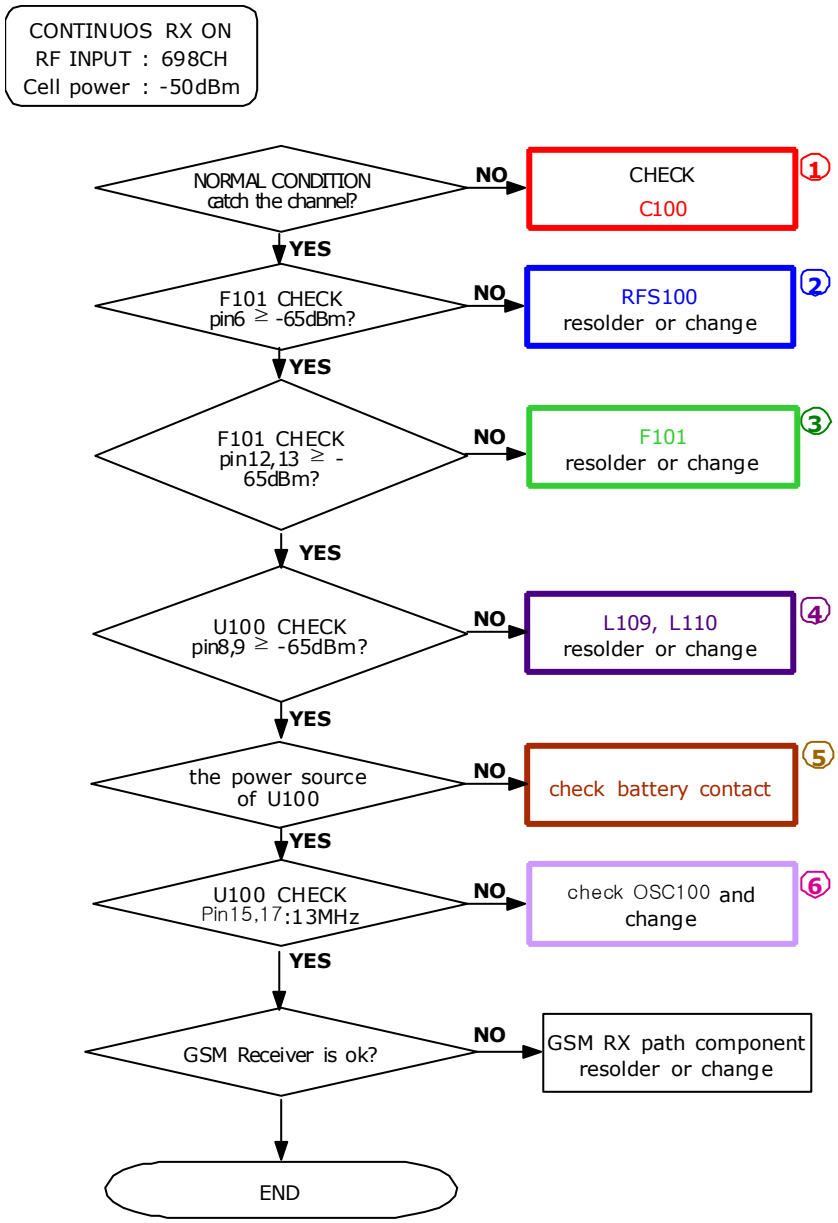
## 3-2-4. PCS Receiver



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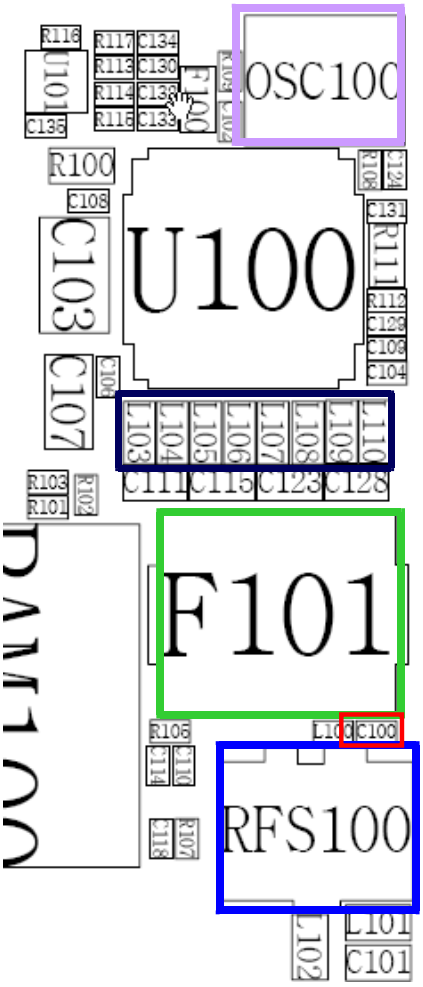




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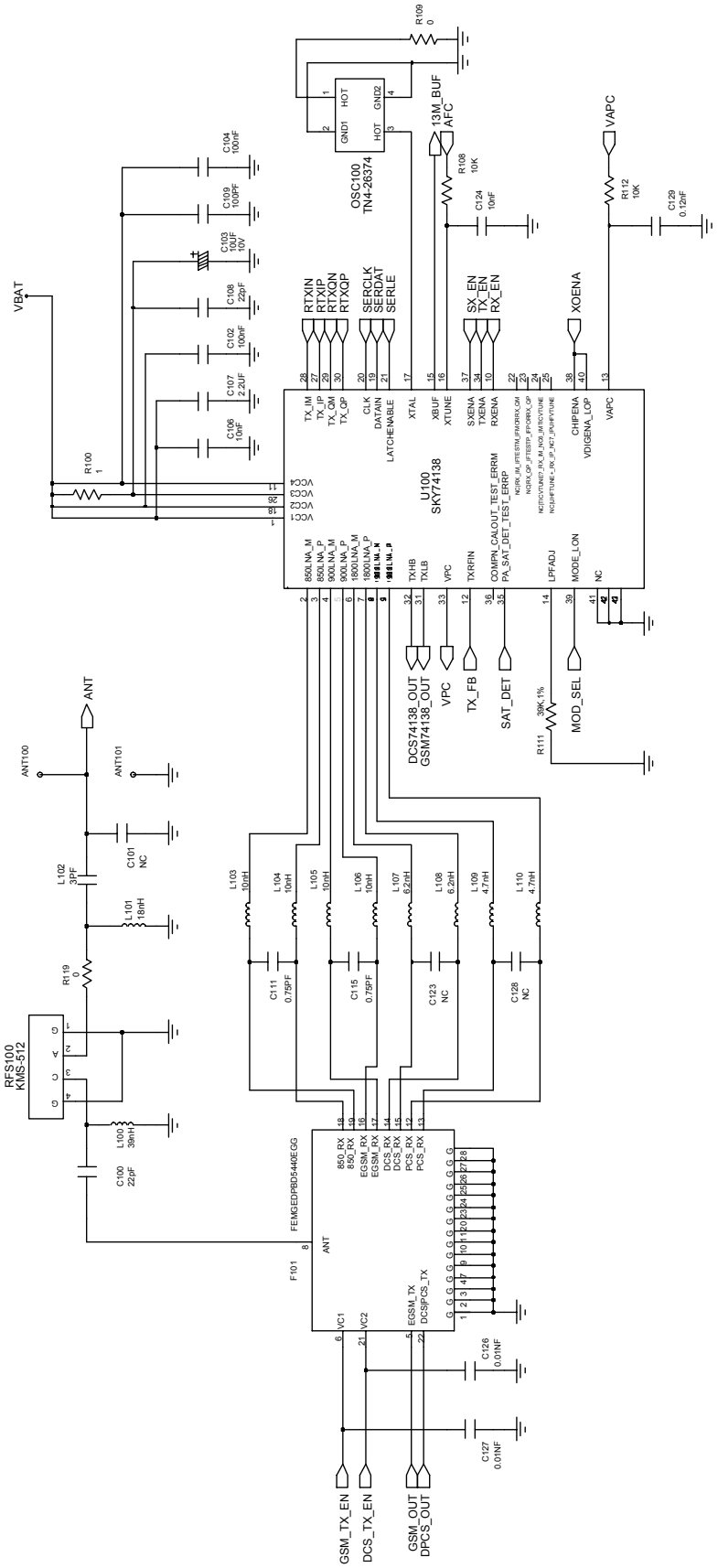




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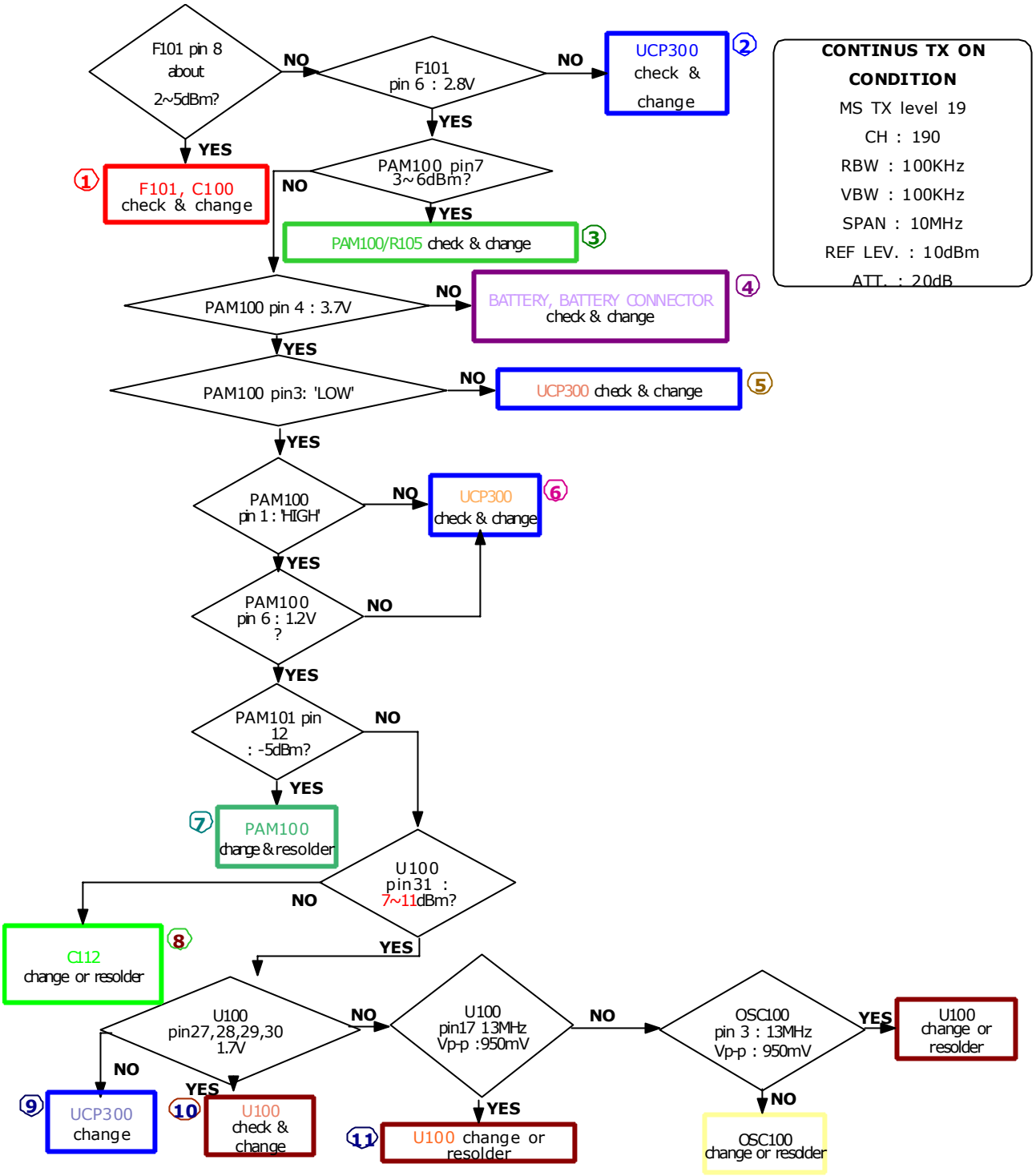
## 3-2-5. GSM850 Transmitter



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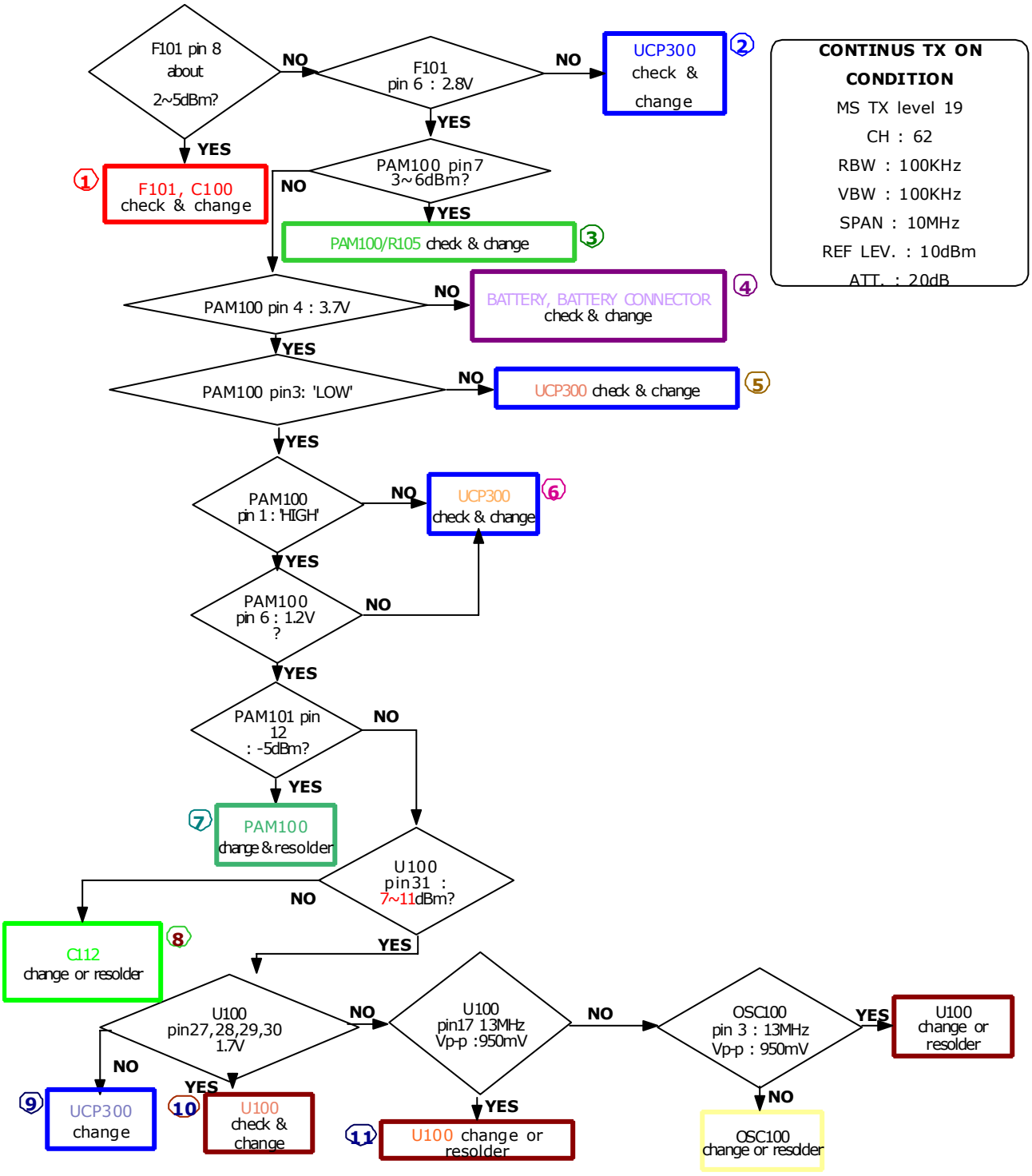
## 3-2-6. GSM900 Transmitter



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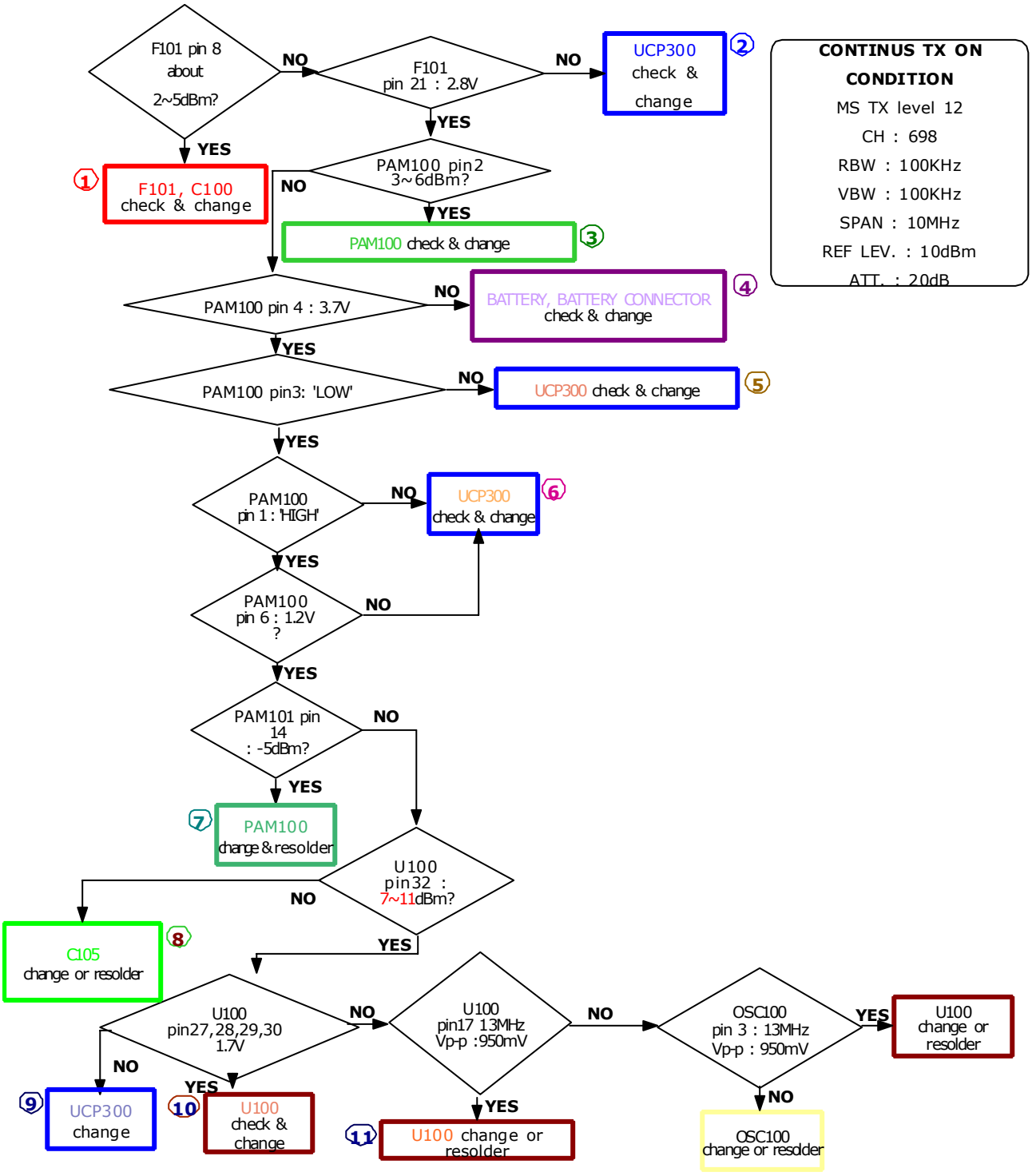
## 3-2-7. DCS Transmitter



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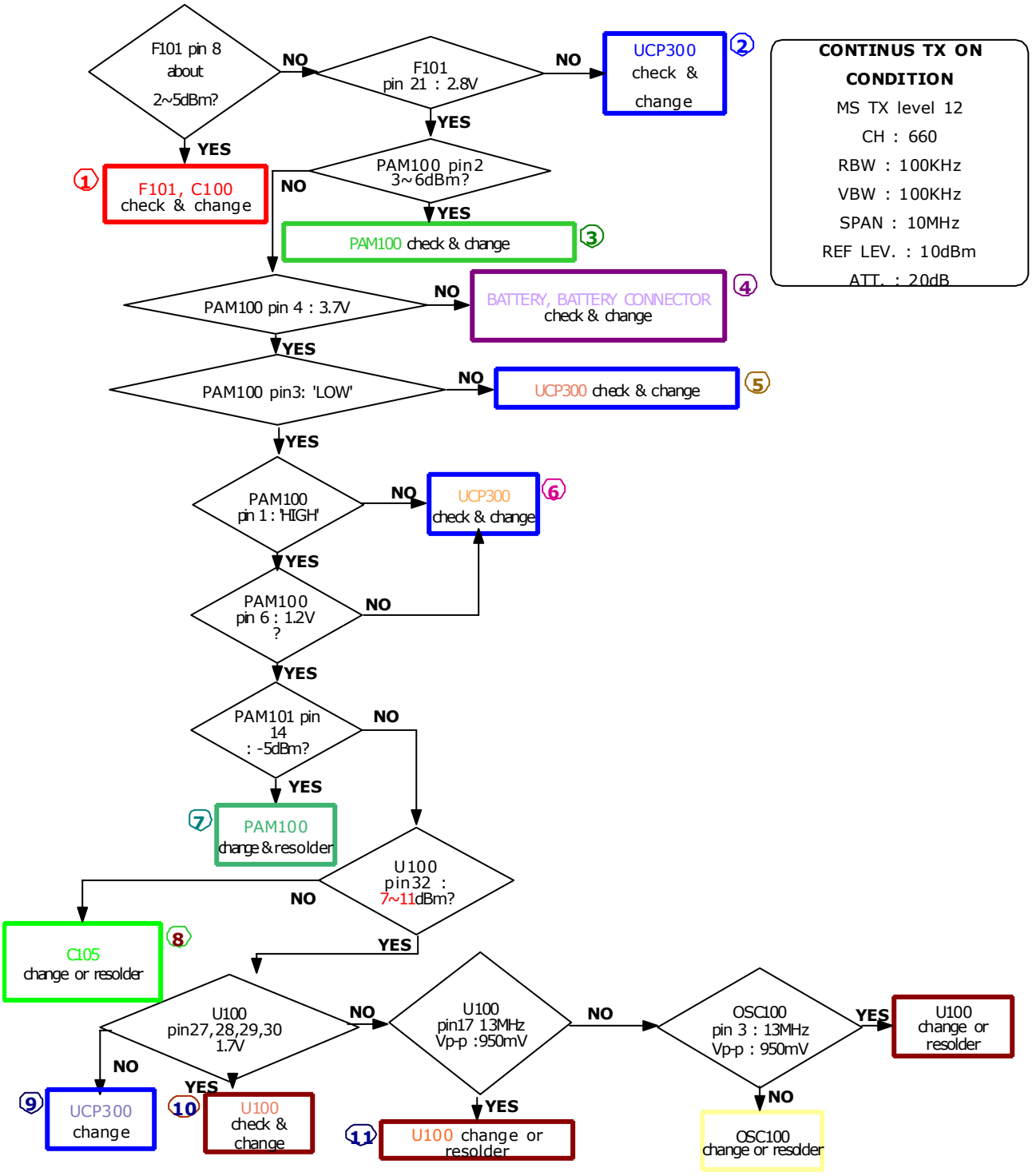
## 3-2-8. PCS Transmitter



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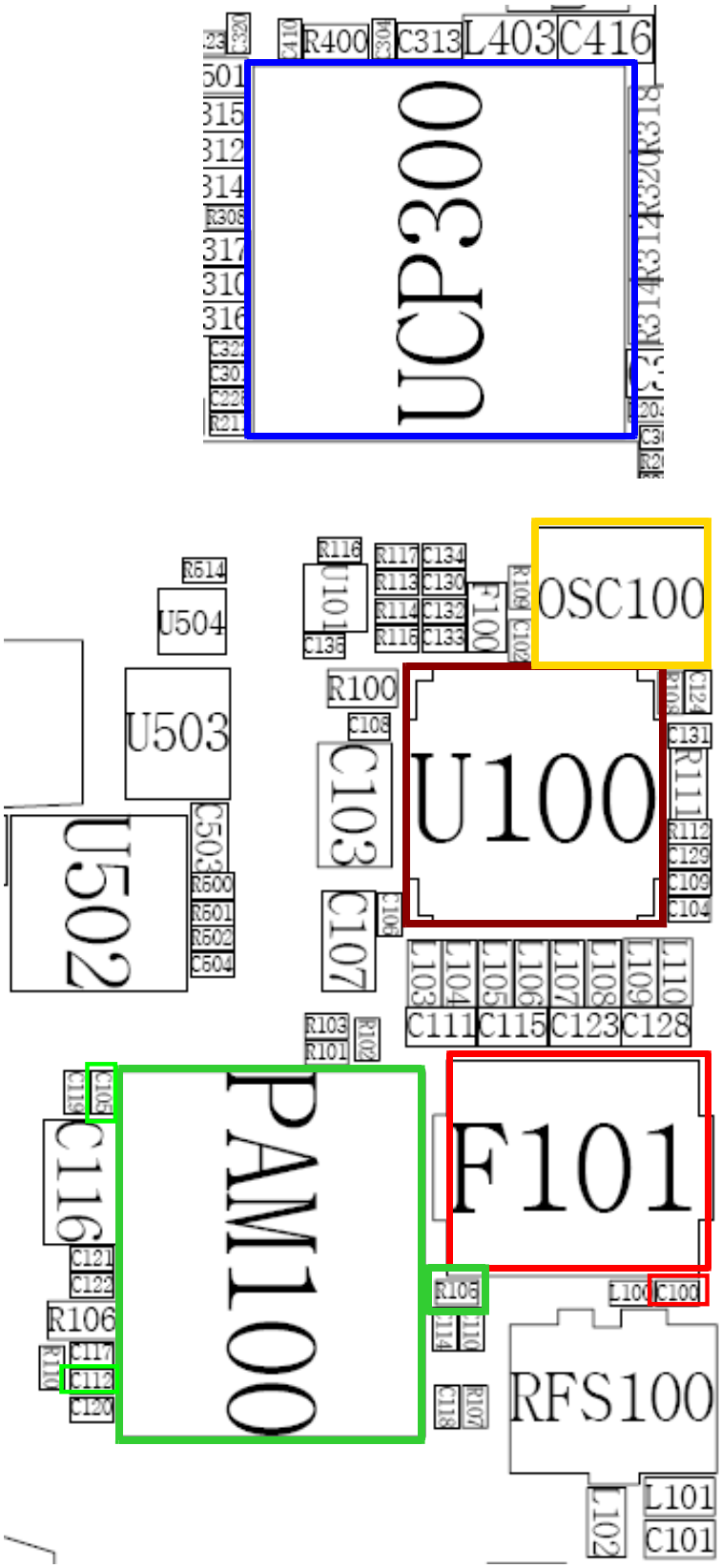




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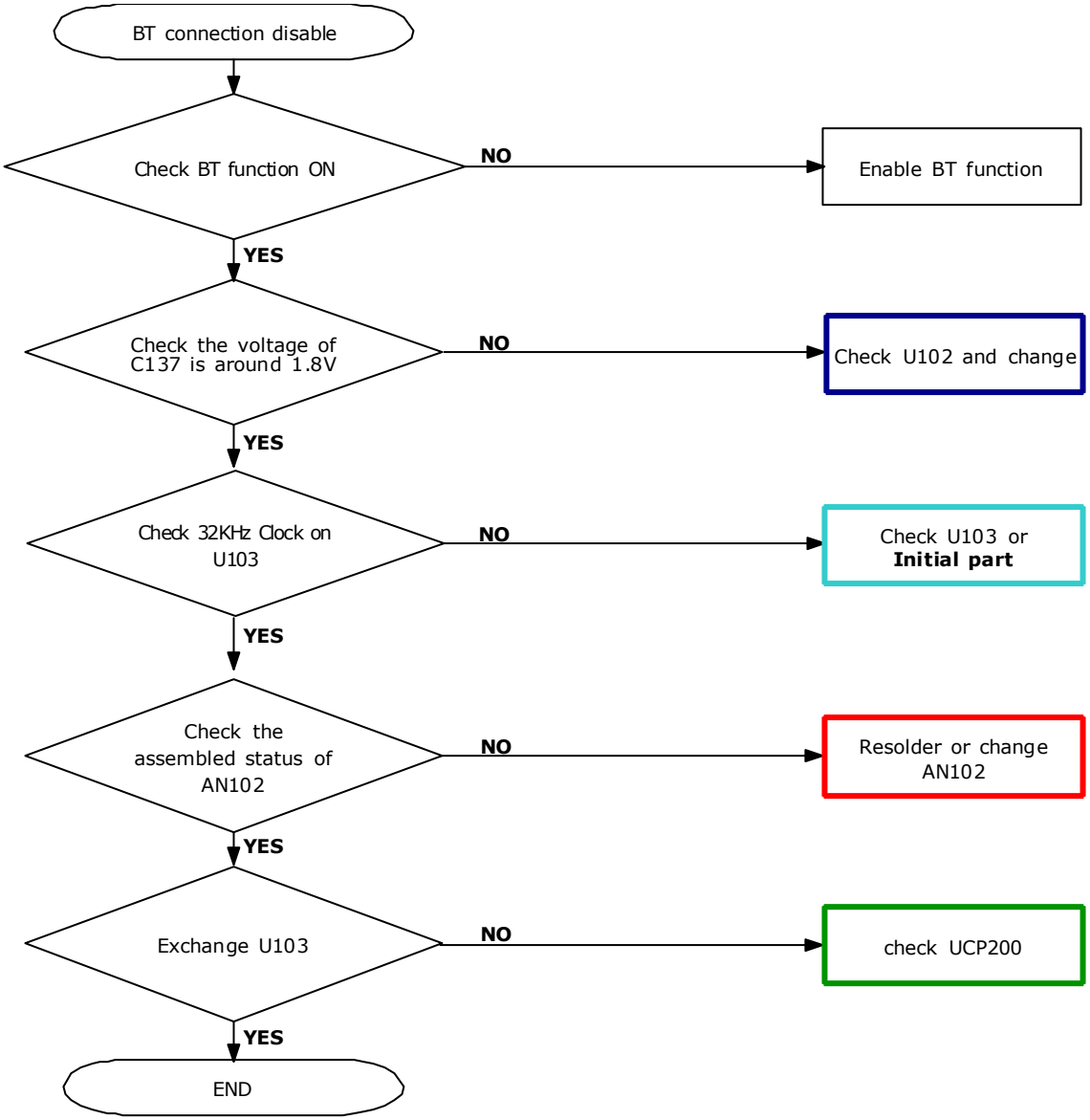
## 3-2-9. Bluetooth Part



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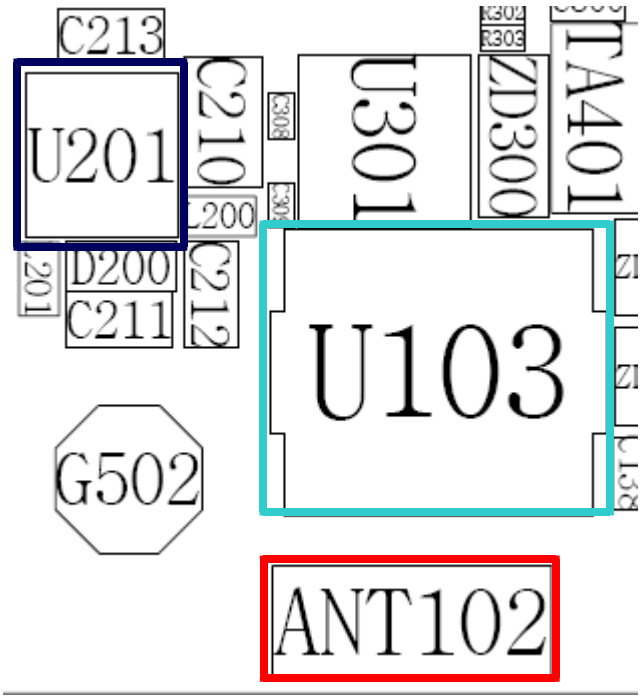


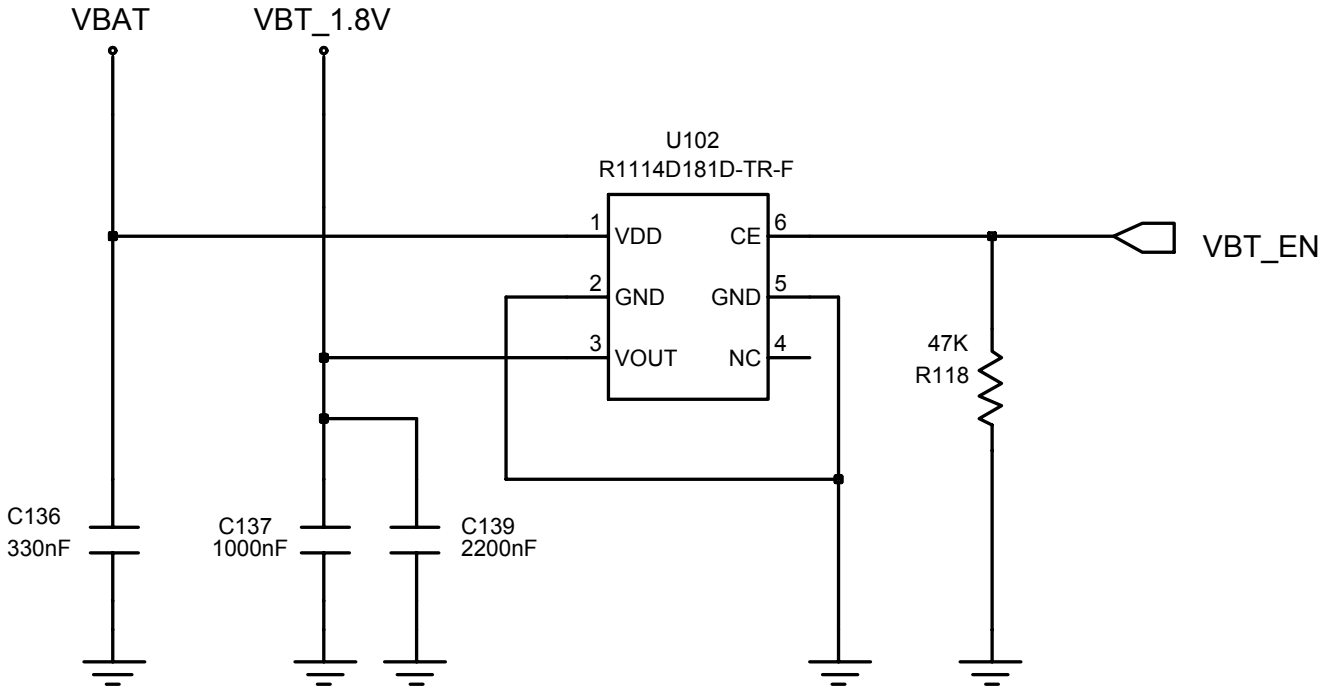




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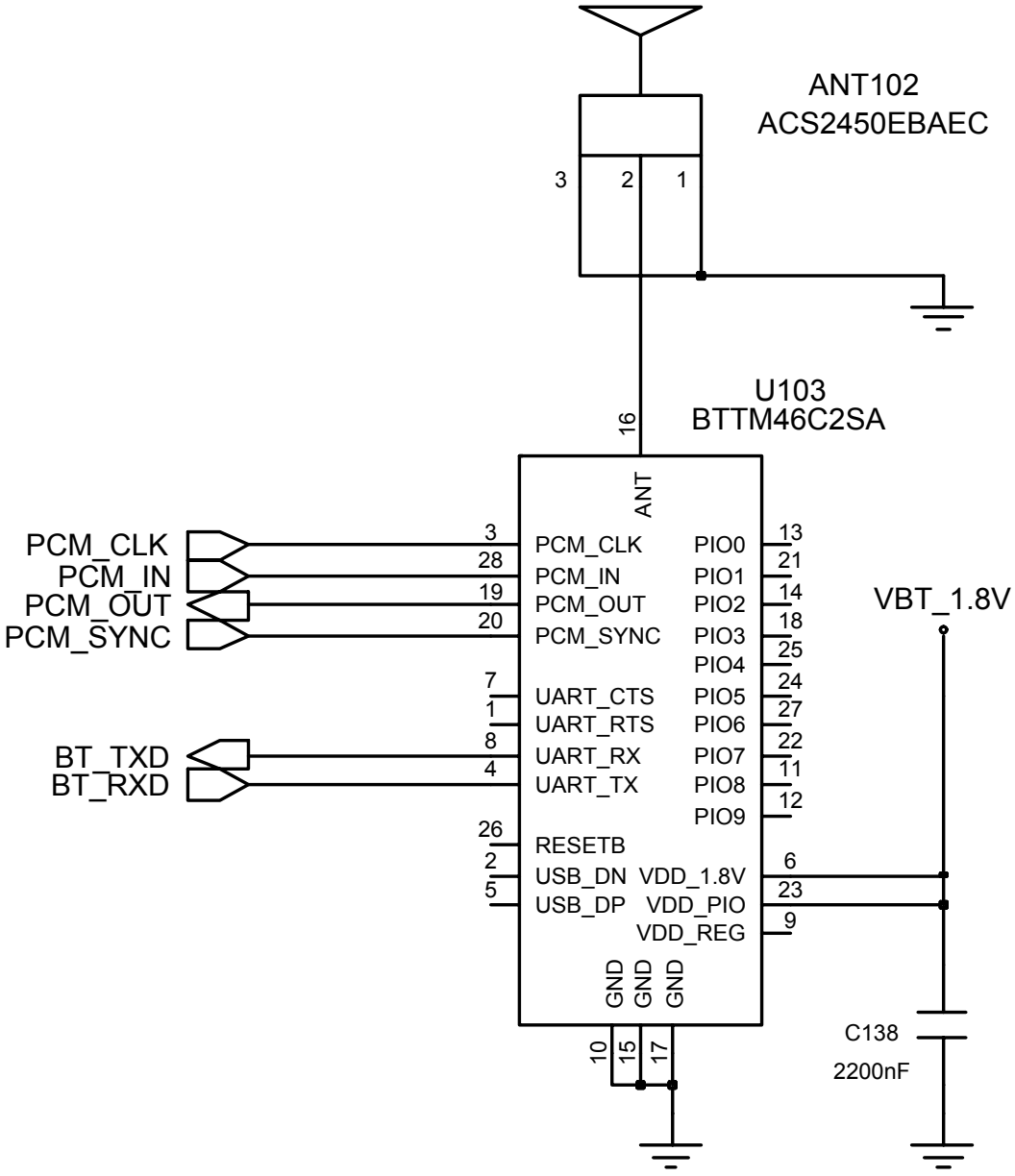




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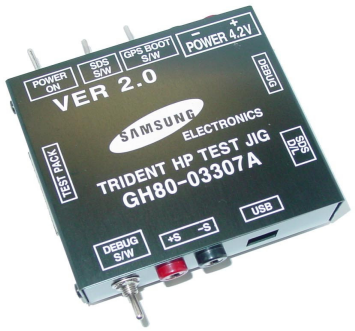
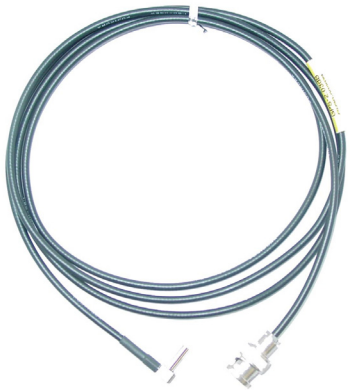
# 4. Array course control




**Test Jig (GH80-03307A)**

**Test Cable (GH39-00478A)**



**RF Test Cable (GH39-00182A)**



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# Software Downloading

## 4-1. Downloading Binary Files

• Three binary files for downloading U600.

– U600XXYY.s3 : Main source code binary.

## 4-2. Pre-requsite for Downloading

• Downloader Program(OptiFlash.exe)

• U600 Mobile Phone

• Data Cable

• Binary files



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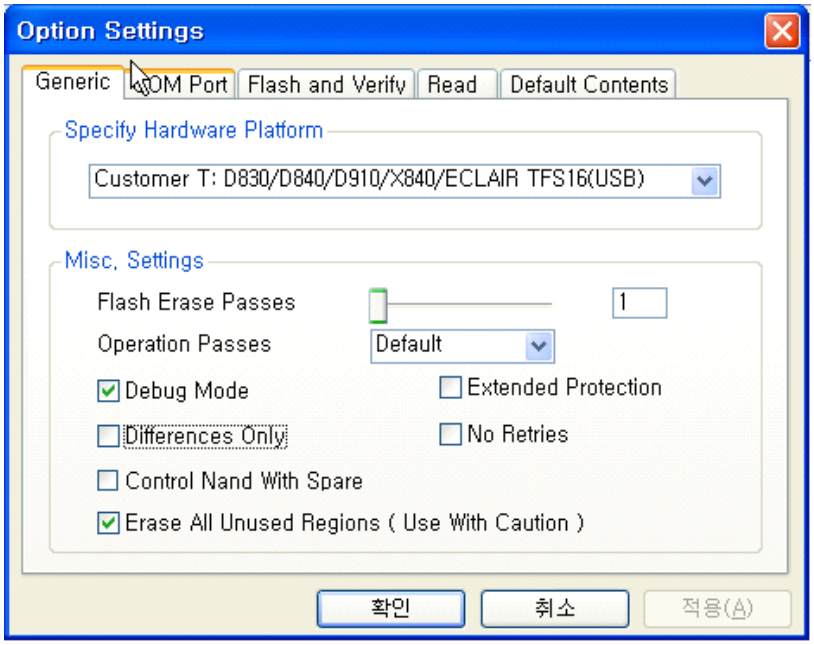
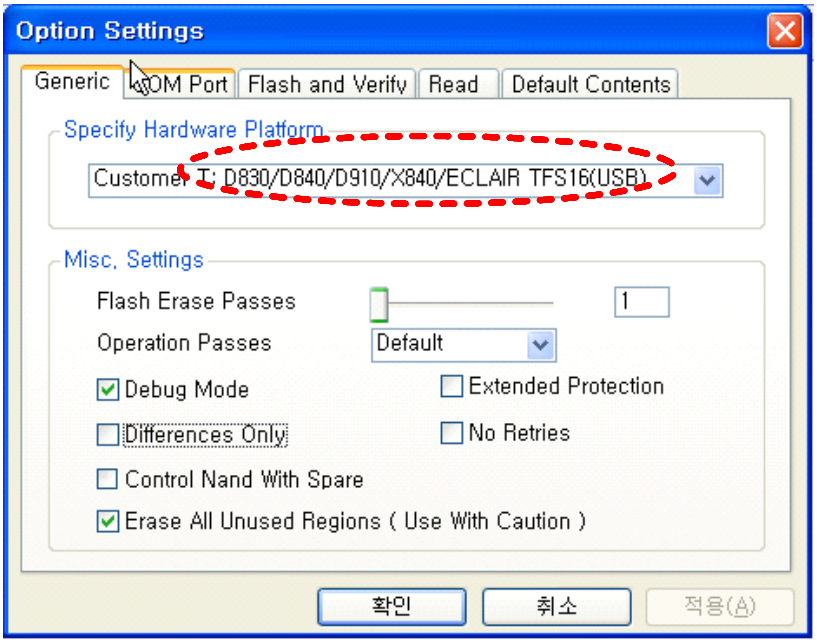
## 4-3. S/W Downloader Program

1. Load the binary download program by executing the "**OptiFlash.exe**"




2. Select the **"Options" -> "Settings" -> "Generic" -> "Specify hardware platform"**. Choose hardware platform for the downloader file setting.

Set the everything else as the default values which are shown below



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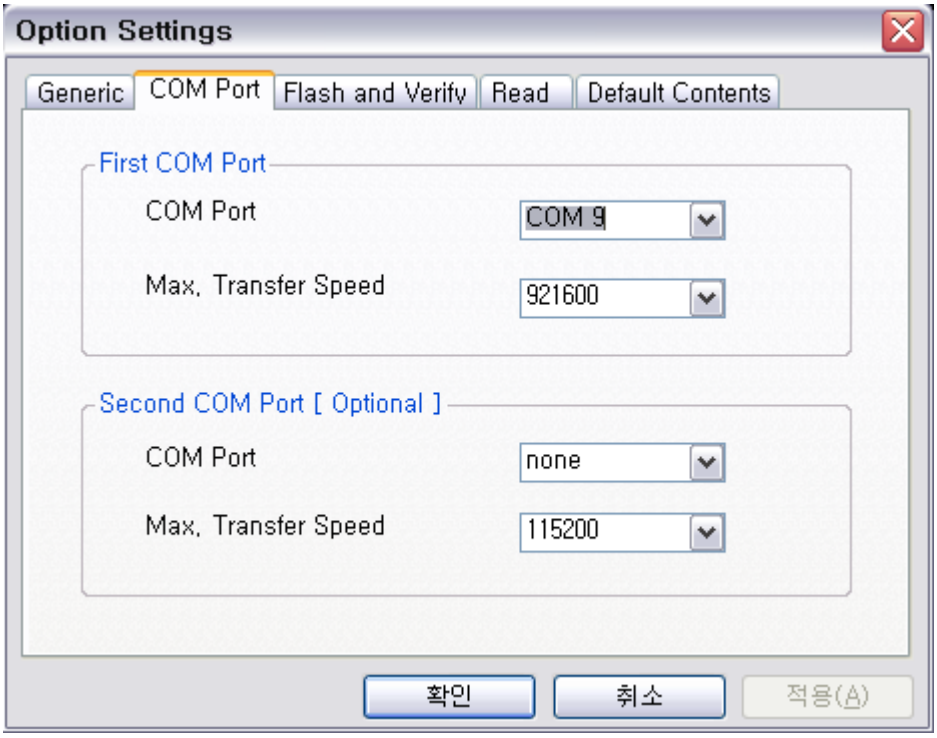
3. Select the **COM port** when the download cable is connected




Up to twelve ports are supported. Additionally you can select the maximum transfer speed OptiFlash will use to communicate with the phone. However, OptiFlash will use a slower speed if either the PC's or the phone's serial hardware is incapable of handling the selected speed



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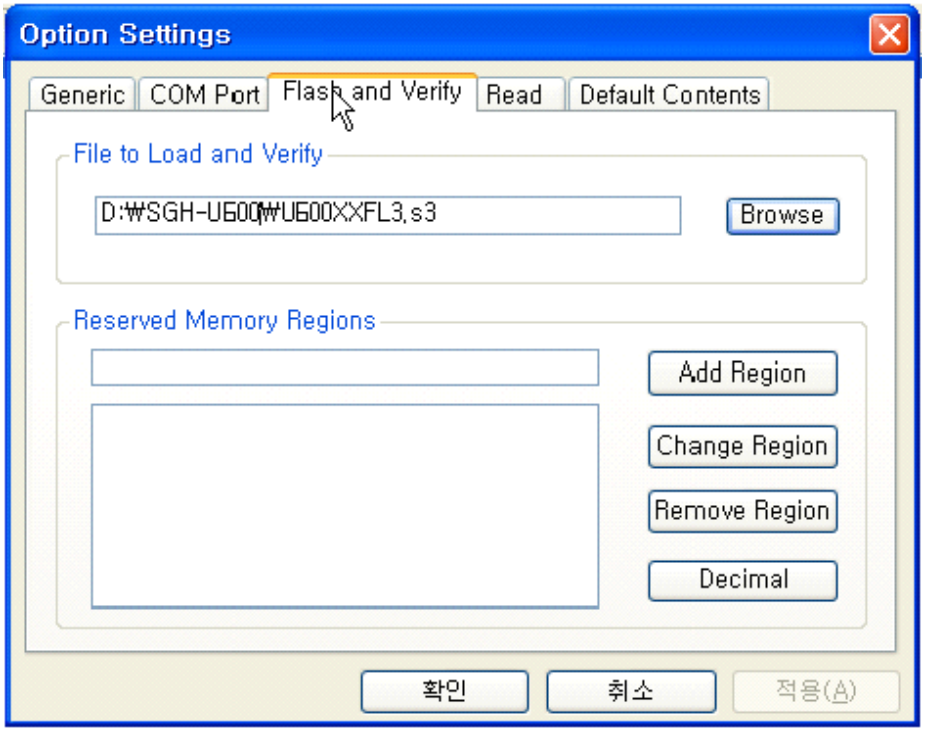
4. Select the“**Flash&Verify” -> “Browse**”

Set the directory path and choose the latest s/w binary, for example “ U600XXYY.s3”, for the downloader binary setting.




The reserved memory regions are included in optiflash program, platform.def.



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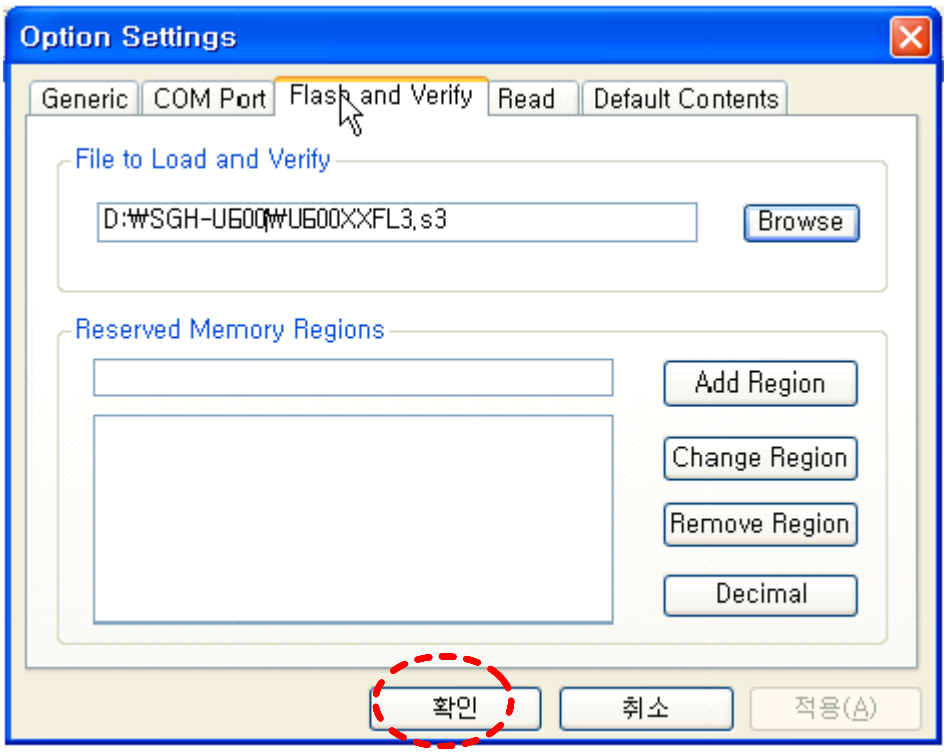
5. Click “**OK**” button then press “**Flash**”.
(Before pressing ‘Flash’ button, push the button **‘*’and ‘END’ at the same time**. Then press ‘Flash’.)

Downloader will upload the binary file as below for the downloading.




6. When downloading is finished successfully, there is a “All is well” message.

7. After finishing downloading, Certain memory resets should be done to guarantee the normal performance.

8. Confirm the downloaded version name and etc. :

***#1234#**

Full Reset :

***2767*3855#**



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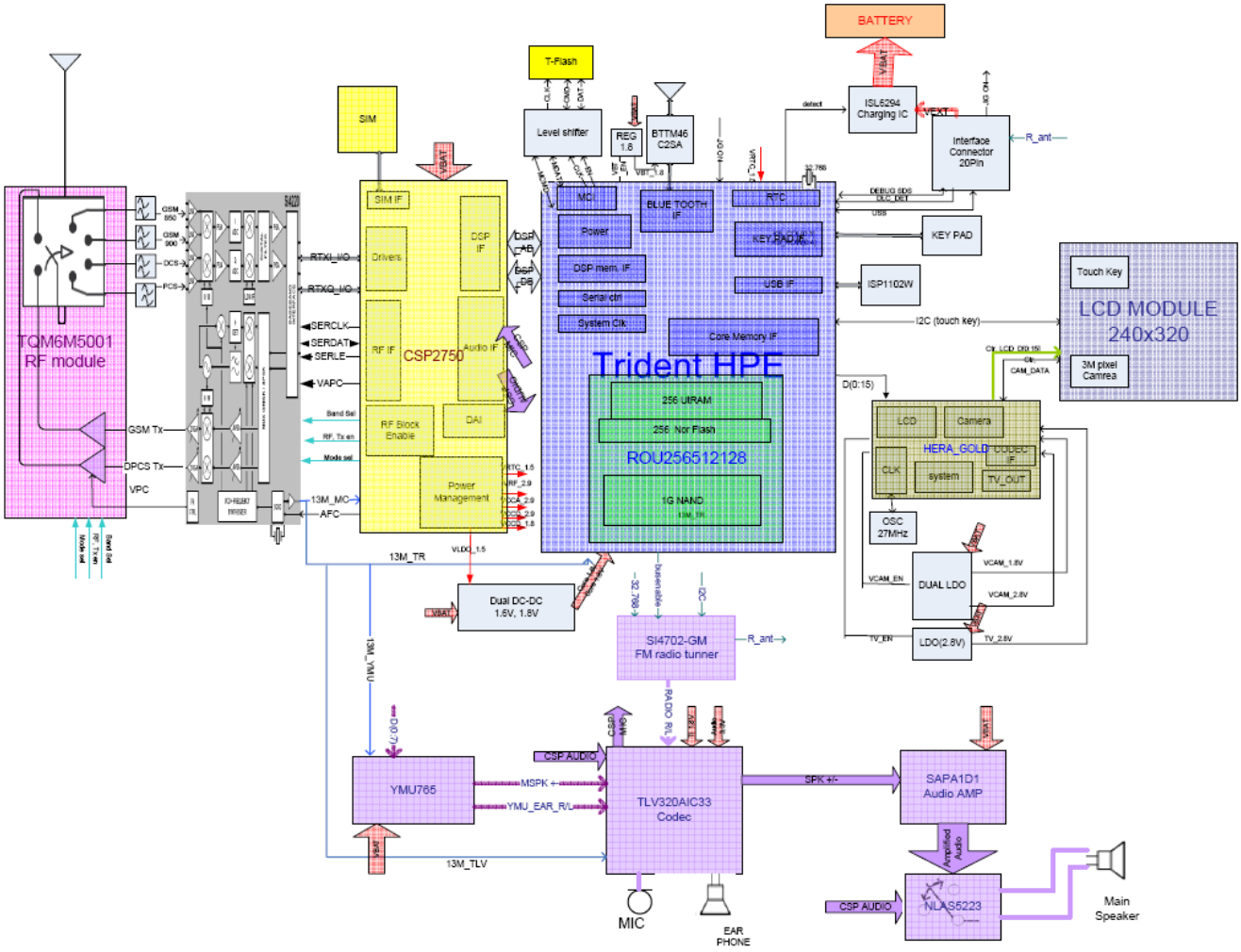
# 5. Block Diagrams



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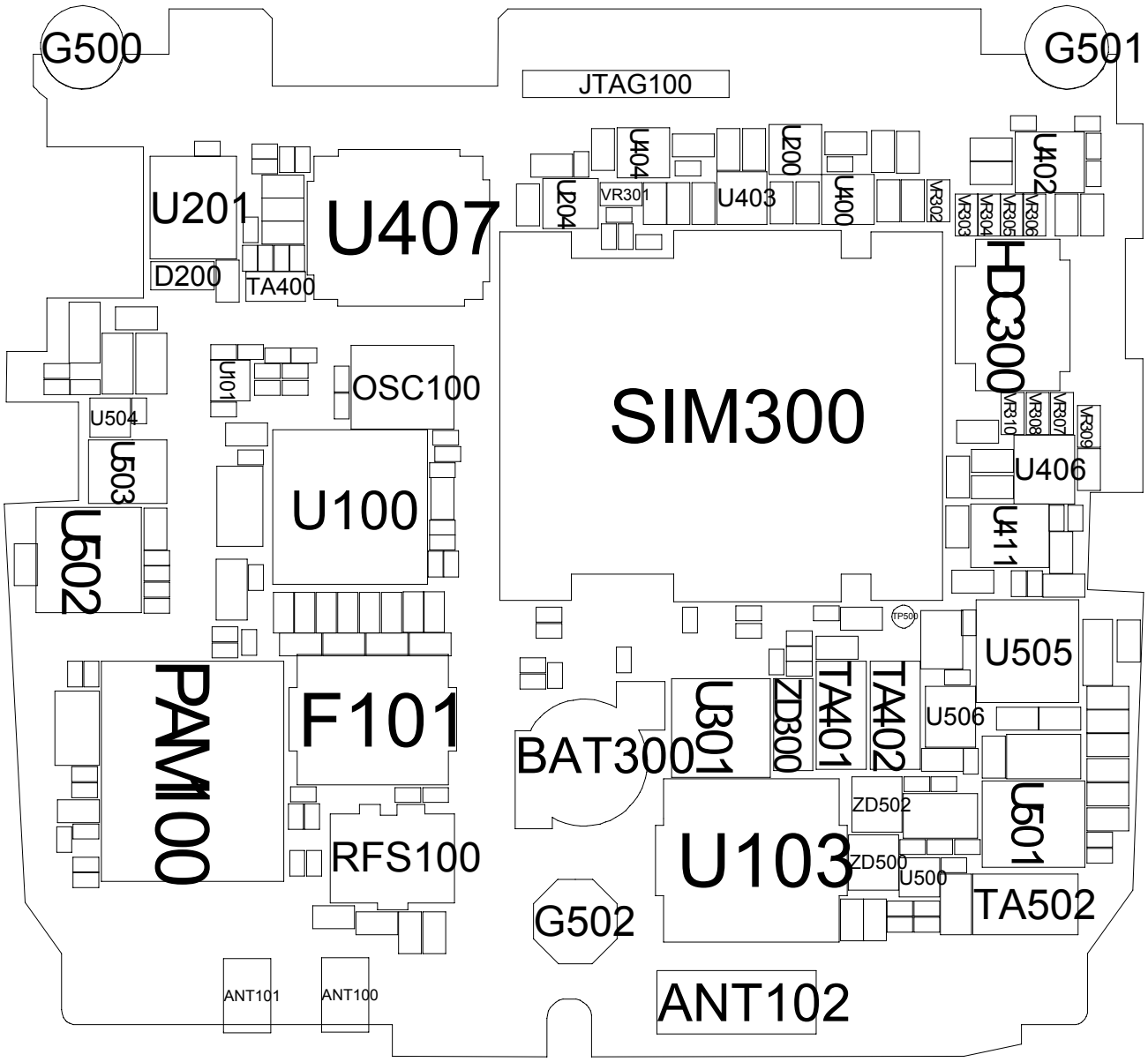
# 6. PCB Diagrams



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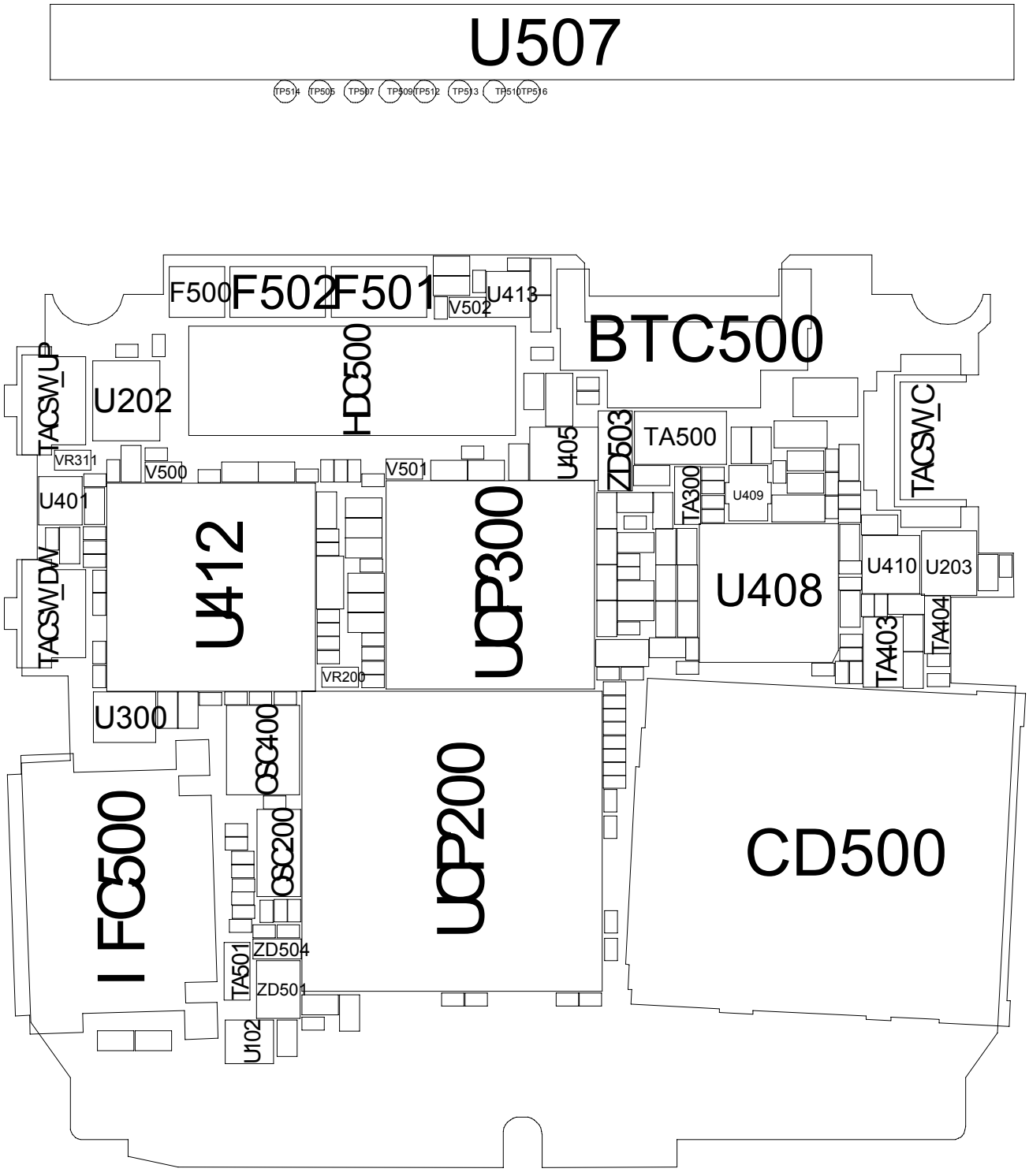




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# 7. MAIN Electrical Parts List

| SEC CODE | Design LOC | Discription | STATUS |
|---|---|---|---|
| 0403-001547 | ZD300 | DIODE-ZENER | SA |
| 0403-001547 | ZD503 | DIODE-ZENER | SA |
| 0404-001172 | D200 | DIODE-SCHOTTKY | SA |
| 0406-001190 | ZD500 | DIODE-TVS | SA |
| 0406-001190 | ZD502 | DIODE-TVS | SA |
| 0406-001200 | U503 | DIODE-TVS | SA |
| 0406-001210 | ZD504 | DIODE-TVS | SA |
| 0406-001239 | ZD501 | DIODE-TVS | SA |
| 0505-002207 | U406 | FET-SILICON | SA |
| 0801-002958 | U101 | IC-CMOS LOGIC | SA |
| 0801-002958 | U504 | IC-CMOS LOGIC | SA |
| 0801-002995 | U500 | IC-CMOS LOGIC | SA |
| 1001-001231 | U506 | IC-ANALOG SWITCH | SA |
| 1001-001401 | U300 | IC-ANALOG SWITCH | SA |
| 1001-001410 | U409 | IC-ANALOG SWITCH | SA |
| 1006-001322 | U202 | IC-LINE TRANSCEIVER | SA |
| 1009-001020 | U203 | IC-HALL EFFECT S/W | SA |
| 1108-000063 | UCP200 | IC-MCP | SA |
| 1201-002147 | U411 | IC-VIDEO AMP | SA |
| 1201-002233 | U410 | IC-AUDIO AMP | SA |
| 1201-002368 | PAM100 | IC-POWER AMP | SA |
| 1203-003340 | U200 | IC-POSI.FIXED REG. | SA |
| 1203-003340 | U403 | IC-POSI.FIXED REG. | SA |
| 1203-003432 | U404 | IC-POSI.FIXED REG. | SA |
| 1203-003688 | U102 | IC-POSI.FIXED REG. | SA |
| 1203-003737 | U204 | IC-POSI.FIXED REG. | SA |
| 1203-003754 | U400 | IC-POSI.FIXED REG. | SA |
| 1203-003754 | U413 | IC-POSI.FIXED REG. | SA |
| 1203-003787 | U401 | IC-POSI.FIXED REG. | SA |
| 1203-003789 | U502 | IC-POWER SUPERVISOR | SA |
| 1203-004119 | UCP300 | IC-POWER SUPERVISOR | SA |
| 1203-004394 | U402 | IC-MULTI REG. | SA |
| 1203-004482 | U201 | IC-DC/DC CONVERTER | SA |
| 1203-004518 | U501 | IC-BATTERY | SA |
| 1203-004554 | U405 | IC-DC/DC CONVERTER | SA |
| 1204-002138 | U407 | IC-MELODY | SA |



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| SEC CODE | Design LOC | Discription | STATUS |
|---|---|---|---|
| 1204-002746 | U505 | IC-TUNER | SA |
| 1205-002272 | U301 | IC-TRANSCEIVER | SA |
| 1205-002946 | U408 | IC-CODEC | SA |
| 1205-003203 | U100 | IC-TRANSCEIVER | SA |
| 1205-003210 | U412 | IC-CODEC | SA |
| 1404-001165 | VR301 | THERMISTOR-NTC | SA |
| 1405-001082 | V500 | VARISTOR | SA |
| 1405-001082 | V501 | VARISTOR | SA |
| 1405-001082 | V502 | VARISTOR | SA |
| 1405-001082 | VR200 | VARISTOR | SA |
| 1405-001133 | VR300 | VARISTOR | SA |
| 1405-001133 | VR302 | VARISTOR | SA |
| 1405-001133 | VR303 | VARISTOR | SA |
| 1405-001133 | VR304 | VARISTOR | SA |
| 1405-001133 | VR305 | VARISTOR | SA |
| 1405-001133 | VR306 | VARISTOR | SA |
| 1405-001133 | VR307 | VARISTOR | SA |
| 1405-001133 | VR308 | VARISTOR | SA |
| 1405-001133 | VR309 | VARISTOR | SA |
| 1405-001133 | VR310 | VARISTOR | SA |
| 1405-001133 | VR311 | VARISTOR | SA |
| 2007-000141 | R310 | R-CHIP | SA |
| 2007-000141 | R316 | R-CHIP | SA |
| 2007-000171 | R119 | R-CHIP | SA |
| 2007-000171 | R322 | R-CHIP | SA |
| 2007-000171 | R323 | R-CHIP | SA |
| 2007-000171 | R432 | R-CHIP | SA |
| 2007-000171 | R533 | R-CHIP | SA |
| 2007-000171 | R534 | R-CHIP | SA |
| 2007-000172 | R536 | R-CHIP | SA |
| 2007-000172 | R537 | R-CHIP | SA |
| 2007-001119 | R309 | R-CHIP | SA |
| 2007-001244 | R312 | R-CHIP | SA |
| 2007-001244 | R314 | R-CHIP | SA |
| 2007-001306 | R439 | R-CHIP | SA |
| 2007-007009 | R438 | R-CHIP | SA |



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| 2007-007132 | R513 | R-CHIP | SA |
| 2007-007134 | R111 | R-CHIP | SA |
| 2007-007134 | R422 | R-CHIP | SA |
| 2007-007134 | R425 | R-CHIP | SA |
| 2007-007156 | R100 | R-CHIP | SA |
| 2007-007317 | R106 | R-CHIP | SA |
| 2007-007590 | R318 | R-CHIP | SA |
| 2007-007590 | R320 | R-CHIP | SA |
| 2007-007741 | R112 | R-CHIP | SA |
| 2007-007741 | R311 | R-CHIP | SA |
| 2007-007741 | R313 | R-CHIP | SA |
| 2007-007741 | R317 | R-CHIP | SA |
| 2007-007741 | R319 | R-CHIP | SA |
| 2007-007741 | R440 | R-CHIP | SA |
| 2007-007741 | R441 | R-CHIP | SA |
| 2007-007741 | R504 | R-CHIP | SA |
| 2007-007741 | R506 | R-CHIP | SA |
| 2007-008040 | R455 | R-CHIP | SA |
| 2007-008040 | R456 | R-CHIP | SA |
| 2007-008044 | R110 | R-CHIP | SA |
| 2007-008045 | R114 | R-CHIP | SA |
| 2007-008045 | R117 | R-CHIP | SA |
| 2007-008045 | R300 | R-CHIP | SA |
| 2007-008045 | R532 | R-CHIP | SA |
| 2007-008051 | R417 | R-CHIP | SA |
| 2007-008051 | R429 | R-CHIP | SA |
| 2007-008052 | R208 | R-CHIP | SA |
| 2007-008052 | R308 | R-CHIP | SA |
| 2007-008052 | R430 | R-CHIP | SA |
| 2007-008053 | R512 | R-CHIP | SA |
| 2007-008055 | R207 | R-CHIP | SA |
| 2007-008055 | R212 | R-CHIP | SA |
| 2007-008055 | R213 | R-CHIP | SA |
| 2007-008055 | R216 | R-CHIP | SA |
| 2007-008055 | R508 | R-CHIP | SA |
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| 2007-008055 | R525 | R-CHIP | SA |
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| 2007-008419 | R527 | R-CHIP | SA |
| 2007-008419 | R528 | R-CHIP | SA |
| 2007-008419 | R529 | R-CHIP | SA |
| 2007-008419 | R530 | R-CHIP | SA |
| 2007-008419 | R531 | R-CHIP | SA |
| 2007-008420 | R303 | R-CHIP | SA |
| 2007-008420 | R304 | R-CHIP | SA |
| 2007-008478 | R302 | R-CHIP | SA |
| 2007-008478 | R414 | R-CHIP | SA |
| 2007-008483 | R118 | R-CHIP | SA |
| 2007-008483 | R206 | R-CHIP | SA |
| 2007-008483 | R210 | R-CHIP | SA |
| 2007-008483 | R301 | R-CHIP | SA |
| 2007-008483 | R401 | R-CHIP | SA |
| 2007-008483 | R403 | R-CHIP | SA |
| 2007-008483 | R404 | R-CHIP | SA |
| 2007-008483 | R433 | R-CHIP | SA |
| 2007-008483 | R436 | R-CHIP | SA |
| 2007-008483 | R437 | R-CHIP | SA |
| 2007-008483 | R500 | R-CHIP | SA |
| 2007-008483 | R501 | R-CHIP | SA |
| 2007-008483 | R502 | R-CHIP | SA |
| 2007-008483 | R507 | R-CHIP | SA |
| 2007-008483 | R535 | R-CHIP | SA |
| 2007-008486 | R514 | R-CHIP | SA |
| 2007-008516 | R108 | R-CHIP | SA |
| 2007-008516 | R211 | R-CHIP | SA |
| 2007-008516 | R450 | R-CHIP | SA |
| 2007-008531 | R204 | R-CHIP | SA |
| 2007-008542 | R107 | R-CHIP | SA |
| 2007-008542 | R109 | R-CHIP | SA |



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| 2007-008542 | R324 | R-CHIP | SA |
| 2007-008542 | R457 | R-CHIP | SA |
| 2007-008542 | R458 | R-CHIP | SA |
| 2007-008544 | R409 | R-CHIP | SA |
| 2007-008579 | R101 | R-CHIP | SA |
| 2007-008579 | R103 | R-CHIP | SA |
| 2007-008587 | R113 | R-CHIP | SA |
| 2007-008588 | R305 | R-CHIP | SA |
| 2007-008588 | R427 | R-CHIP | SA |
| 2007-008588 | R428 | R-CHIP | SA |
| 2007-008588 | R434 | R-CHIP | SA |
| 2007-008588 | R435 | R-CHIP | SA |
| 2007-008774 | R214 | R-CHIP | SA |
| 2007-008808 | R410 | R-CHIP | SA |
| 2007-009084 | R418 | R-CHIP | SA |
| 2007-009108 | R413 | R-CHIP | SA |
| 2007-009111 | R420 | R-CHIP | SA |
| 2007-009111 | R421 | R-CHIP | SA |
| 2007-009111 | R424 | R-CHIP | SA |
| 2007-009111 | R431 | R-CHIP | SA |
| 2007-009115 | R102 | R-CHIP | SA |
| 2007-009157 | R419 | R-CHIP | SA |
| 2007-009166 | R306 | R-CHIP | SA |
| 2007-009167 | R307 | R-CHIP | SA |
| 2007-009168 | R215 | R-CHIP | SA |
| 2007-009168 | R503 | R-CHIP | SA |
| 2007-009169 | R511 | R-CHIP | SA |
| 2007-009170 | R524 | R-CHIP | SA |
| 2007-009171 | R412 | R-CHIP | SA |
| 2007-009233 | R505 | R-CHIP | SA |
| 2007-009314 | R116 | R-CHIP | SA |
| 2007-009402 | R411 | R-CHIP | SA |
| 2203-000233 | C217 | C-CER,CHIP | SA |
| 2203-000438 | C466 | C-CER,CHIP | SA |
| 2203-000438 | C467 | C-CER,CHIP | SA |
| 2203-000438 | C500 | C-CER,CHIP | SA |



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| 2203-000812 | C326 | C-CER,CHIP | SA |
| 2203-000812 | C328 | C-CER,CHIP | SA |
| 2203-000812 | C335 | C-CER,CHIP | SA |
| 2203-000812 | C337 | C-CER,CHIP | SA |
| 2203-000870 | L102 | C-CER,CHIP | SA |
| 2203-001405 | C319 | C-CER,CHIP | SA |
| 2203-002677 | C111 | C-CER,CHIP | SA |
| 2203-002677 | C115 | C-CER,CHIP | SA |
| 2203-002709 | C512 | C-CER,CHIP | SA |
| 2203-002709 | C513 | C-CER,CHIP | SA |
| 2203-002982 | C445 | C-CER,CHIP | SA |
| 2203-005481 | C329 | C-CER,CHIP | SA |
| 2203-005481 | C336 | C-CER,CHIP | SA |
| 2203-005482 | C412 | C-CER,CHIP | SA |
| 2203-005682 | C122 | C-CER,CHIP | SA |
| 2203-005682 | C132 | C-CER,CHIP | SA |
| 2203-005682 | C134 | C-CER,CHIP | SA |
| 2203-005682 | C332 | C-CER,CHIP | SA |
| 2203-005682 | C333 | C-CER,CHIP | SA |
| 2203-005682 | C334 | C-CER,CHIP | SA |
| 2203-005682 | C509 | C-CER,CHIP | SA |
| 2203-005682 | C518 | C-CER,CHIP | SA |
| 2203-005682 | C519 | C-CER,CHIP | SA |
| 2203-005683 | C508 | C-CER,CHIP | SA |
| 2203-005719 | C472 | C-CER,CHIP | SA |
| 2203-005719 | C473 | C-CER,CHIP | SA |
| 2203-005725 | C100 | C-CER,CHIP | SA |
| 2203-005725 | C108 | C-CER,CHIP | SA |
| 2203-005727 | C226 | C-CER,CHIP | SA |
| 2203-005727 | C227 | C-CER,CHIP | SA |
| 2203-005729 | C112 | C-CER,CHIP | SA |
| 2203-005729 | C448 | C-CER,CHIP | SA |
| 2203-005736 | C109 | C-CER,CHIP | SA |
| 2203-005736 | C118 | C-CER,CHIP | SA |
| 2203-005736 | C311 | C-CER,CHIP | SA |



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| 2203-005736 | C426 | C-CER,CHIP | SA |
| 2203-005736 | C510 | C-CER,CHIP | SA |
| 2203-005789 | C114 | C-CER,CHIP | SA |
| 2203-005806 | C219 | C-CER,CHIP | SNA |
| 2203-005806 | C455 | C-CER,CHIP | SNA |
| 2203-006048 | C300 | C-CER,CHIP | SA |
| 2203-006048 | C306 | C-CER,CHIP | SA |
| 2203-006048 | C502 | C-CER,CHIP | SA |
| 2203-006120 | C140 | C-CER,CHIP | SA |
| 2203-006121 | C117 | C-CER,CHIP | SA |
| 2203-006194 | C106 | C-CER,CHIP | SA |
| 2203-006194 | C121 | C-CER,CHIP | SA |
| 2203-006194 | C124 | C-CER,CHIP | SA |
| 2203-006194 | C200 | C-CER,CHIP | SA |
| 2203-006194 | C202 | C-CER,CHIP | SA |
| 2203-006194 | C205 | C-CER,CHIP | SA |
| 2203-006194 | C207 | C-CER,CHIP | SA |
| 2203-006194 | C208 | C-CER,CHIP | SA |
| 2203-006194 | C218 | C-CER,CHIP | SA |
| 2203-006194 | C301 | C-CER,CHIP | SA |
| 2203-006194 | C304 | C-CER,CHIP | SA |
| 2203-006194 | C321 | C-CER,CHIP | SA |
| 2203-006194 | C463 | C-CER,CHIP | SA |
| 2203-006194 | C464 | C-CER,CHIP | SA |
| 2203-006257 | C312 | C-CER,CHIP | SA |
| 2203-006257 | C431 | C-CER,CHIP | SA |
| 2203-006260 | C324 | C-CER,CHIP | SA |
| 2203-006260 | C327 | C-CER,CHIP | SA |
| 2203-006305 | C126 | C-CER,CHIP | SA |
| 2203-006305 | C127 | C-CER,CHIP | SA |
| 2203-006305 | C130 | C-CER,CHIP | SA |
| 2203-006305 | C131 | C-CER,CHIP | SA |
| 2203-006305 | C459 | C-CER,CHIP | SA |
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| 2203-006324 | C107 | C-CER,CHIP | SA |
| 2203-006361 | C116 | C-CER,CHIP | SA |
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| 2203-006377 | C501 | C-CER,CHIP | SA |
| 2203-006377 | C505 | C-CER,CHIP | SA |
| 2203-006423 | C102 | C-CER,CHIP | SA |
| 2203-006423 | C104 | C-CER,CHIP | SA |
| 2203-006423 | C135 | C-CER,CHIP | SA |
| 2203-006423 | C201 | C-CER,CHIP | SA |
| 2203-006423 | C203 | C-CER,CHIP | SA |
| 2203-006423 | C204 | C-CER,CHIP | SA |
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| 2203-006423 | C441 | C-CER,CHIP | SA |



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| 2203-006423 | C444 | C-CER,CHIP | SA |
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| 2203-006423 | C465 | C-CER,CHIP | SA |
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| 2203-006423 | C475 | C-CER,CHIP | SA |
| 2203-006423 | C477 | C-CER,CHIP | SA |
| 2203-006423 | C504 | C-CER,CHIP | SA |
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| 2203-006556 | C223 | C-CER,CHIP | SA |
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| 2203-006562 | C216 | C-CER,CHIP | SA |
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| 2203-006562 | C323 | C-CER,CHIP | SA |
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| 2203-006562 | C400 | C-CER,CHIP | SA |
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| 2203-006562 | C417 | C-CER,CHIP | SA |
| 2203-006562 | C418 | C-CER,CHIP | SA |
| 2203-006562 | C419 | C-CER,CHIP | SA |
| 2203-006562 | C420 | C-CER,CHIP | SA |
| 2203-006562 | C421 | C-CER,CHIP | SA |
| 2203-006562 | C422 | C-CER,CHIP | SA |
| 2203-006562 | C433 | C-CER,CHIP | SA |
| 2203-006562 | C436 | C-CER,CHIP | SA |



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| 2203-006562 | C438 | C-CER,CHIP | SA |
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| 2203-006562 | C447 | C-CER,CHIP | SA |
| 2203-006562 | C450 | C-CER,CHIP | SA |
| 2203-006562 | C458 | C-CER,CHIP | SA |
| 2203-006562 | C474 | C-CER,CHIP | SA |
| 2203-006562 | C503 | C-CER,CHIP | SA |
| 2203-006562 | C506 | C-CER,CHIP | SA |
| 2203-006562 | C507 | C-CER,CHIP | SA |
| 2203-006562 | C514 | C-CER,CHIP | SA |
| 2203-006562 | C521 | C-CER,CHIP | SA |
| 2203-006620 | C446 | C-CER,CHIP | SNA |
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| 2203-006626 | C411 | C-CER,CHIP | SA |
| 2203-006626 | C414 | C-CER,CHIP | SA |
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| 2203-006626 | C469 | C-CER,CHIP | SA |
| 2203-006626 | C476 | C-CER,CHIP | SA |
| 2203-006648 | C320 | C-CER,CHIP | SA |
| 2203-006648 | C520 | C-CER,CHIP | SA |
| 2203-006824 | C307 | C-CER,CHIP | SA |
| 2203-006824 | C432 | C-CER,CHIP | SA |
| 2203-006825 | C211 | C-CER,CHIP | SA |
| 2203-006825 | C212 | C-CER,CHIP | SA |
| 2203-006825 | C213 | C-CER,CHIP | SA |
| 2203-006838 | C214 | C-CER,CHIP | SA |
| 2203-006838 | C221 | C-CER,CHIP | SA |
| 2203-006838 | C401 | C-CER,CHIP | SA |
| 2203-006838 | C402 | C-CER,CHIP | SA |
| 2203-006872 | C138 | C-CER,CHIP | SA |
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| 2203-006872 | C407 | C-CER,CHIP | SA |
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| 2203-006872 | C413 | C-CER,CHIP | SA |



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| 2203-006872 | C415 | C-CER,CHIP | SA |
| 2203-006872 | C425 | C-CER,CHIP | SA |
| 2203-006872 | C478 | C-CER,CHIP | SA |
| 2203-006896 | C129 | C-CER,CHIP | SA |
| 2203-006979 | C409 | C-CER,CHIP | SA |
| 2404-001268 | C103 | C-TA,CHIP | SA |
| 2404-001339 | TA400 | C-TA,CHIP | SA |
| 2404-001352 | TA403 | C-TA,CHIP | SA |
| 2404-001353 | TA401 | C-TA,CHIP | SA |
| 2404-001353 | TA402 | C-TA,CHIP | SA |
| 2404-001381 | C511 | C-TA,CHIP | SA |
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| 2404-001396 | TA501 | C-TA,CHIP | SA |
| 2404-001406 | TA500 | C-TA,CHIP | SA |
| 2404-001406 | TA502 | C-TA,CHIP | SA |
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| 2703-002586 | L107 | INDUCTOR-SMD | SA |
| 2703-002586 | L108 | INDUCTOR-SMD | SA |
| 2703-002597 | L103 | INDUCTOR-SMD | SA |
| 2703-002597 | L104 | INDUCTOR-SMD | SA |
| 2703-002597 | L105 | INDUCTOR-SMD | SA |
| 2703-002597 | L106 | INDUCTOR-SMD | SA |
| 2703-002700 | L109 | INDUCTOR-SMD | SA |
| 2703-002700 | L110 | INDUCTOR-SMD | SA |
| 2703-002819 | L200 | INDUCTOR-SMD | SA |
| 2703-002819 | L201 | INDUCTOR-SMD | SA |
| 2703-002858 | C105 | INDUCTOR-SMD | SA |
| 2703-002906 | R105 | INDUCTOR-SMD | SA |
| 2703-002910 | L100 | INDUCTOR-SMD | SA |
| 2703-003002 | L403 | INDUCTOR-SMD | SA |
| 2703-003196 | L500 | INDUCTOR-SMD | SA |
| 2801-004458 | OSC400 | CRYSTAL-SMD | SA |
| 2801-004466 | OSC200 | CRYSTAL-SMD | SA |
| 2801-004552 | OSC100 | CRYSTAL-SMD | SA |
| 2901-001348 | F501 | FILTER-EMI/ESD | SA |



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| 2901-001348 | F502 | FILTER-EMI/ESD | SA |
| 2901-001349 | F500 | FILTER-EMI/ESD | SA |
| 2911-000049 | F101 | DUPLEXER-FEM | SA |
| 3301-001158 | L405 | BEAD-SMD | SA |
| 3301-001158 | L406 | BEAD-SMD | SA |
| 3301-001341 | L202 | BEAD-SMD | SA |
| 3301-001341 | L400 | BEAD-SMD | SA |
| 3301-001341 | L401 | BEAD-SMD | SA |
| 3301-001341 | L402 | BEAD-SMD | SA |
| 3301-001341 | L404 | BEAD-SMD | SA |
| 3301-001879 | L501 | BEAD-SMD | SA |
| 3404-001303 | TACSW_DW | SWITCH-TACT | SA |
| 3404-001303 | TACSW_UP | SWITCH-TACT | SA |
| 3404-001320 | TACSW_C | SWITCH-TACT | SA |
| 3705-001358 | RFS100 | CONNECTOR-COAXIAL | SA |
| 3708-002283 | HDC300 | CONNECTOR-FPC/FFC/PIC | SA |
| 3709-001447 | SIM300 | CONNECTOR-CARD EDGE | SA |
| 3709-001464 | CD500 | CONNECTOR-CARD EDGE | SA |
| 3710-002306 | IFC500 | SOCKET-INTERFACE | SA |
| 3711-006323 | HDC500 | HEADER-BOARD TO BOARD | SA |
| 3711-006329 | BTC500 | HEADER-BATTERY | SA |
| 4202-001283 | ANT102 | ANTENNA-CHIP | SA |
| 4302-001158 | BAT300 | BATTERY-LI(2ND) | SA |
| 4709-001413 | U103 | BLUETOOTH MODULE | SA |
| GH09-00045A | UCP200 | IC MICOM | SA |



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# 8. Reference data

## 8-1. Reference Abbreviate

**AAC**: Advanced Audio Coding.
**AVC** : Advanced Video Coding.
**BER** : Bit Error Rate
**BPSK**: Binary Phase Shift Keying
**CA** : Conditional Access
**CDM** : Code Division Multiplexing
**C/I** : Carrier to Interference
**DMB** : Digital Multimedia Broadcasting
**EN** **:** European Standard
**ES** **:** Elementary Stream
**ETSI**: European Telecommunications Standards Institute
**MPEG**: Moving Picture Experts Group
**PN** : Pseudo-random Noise
**PS** : Pilot Symbol
**QPSK**: Quadrature Phase Shift Keying
**RS** : Reed-Solomon
**SI** : Service Information
**TDM** : Time Division Multiplexing
**TS** **:** Transport Stream


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# 9. Safety Precautions

## 9-1. Repair Precaution

- Repair in Shield Box, during detailed tuning.
  Take specially care of tuning or test,
  because specipicty of cellular phone is sensitive for surrounding interference(RF noise).

- Be careful to use a kind of magnetic object or tool,
  because performance of parts is damaged by the influence of manetic force.

- Surely use a standard screwdriver when you disassemble this product,
  otherwise screw will be worn away.

- Use a thicken twisted wire when you measure level.
  A thicken twisted wire has low resistance, therefore error of measurement is few.

- Repair after separate Test Pack and Set because for short danger (for example an overcurrent and furious flames of parts etc) when you repair board in condition of connecting Test Pack and tuning on.

- Take specially care of soldering, because Land of PCB is small and weak in heat.

- Surely tune on/off while using AC power plug, because a repair of battery charger is dangerous when tuning ON/OFF PBA and Connector after disassembing charger.

- Don't use as you pleases after change other material than replacement registered on SEC System.
  Otherwise engineer in charge isn't charged with problem that you don't keep this rules.



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## 9-2. ESD(Electrostatically Sensitive Devices) Precaution

Several semiconductor may be damaged easilly by static electricity. Such parts are called by ESD(Electrostatically Sensitive Devices), for example IC,BGA chip etc. Read Precaution below. You can prevent from ESD damage by static electricity.

- Remove static electricity remained your body before you touch semiconductor or parts with semiconductor. There are ways that you touch an earthed place or wear static electricity prevention string on wrist.

- Use earthed soldering steel when you connect or disconnect ESD.

- Use soldering removing tool to break static electricity. , otherwise ESD will be damaged by static electricity.

- Don't unpack until you set up ESD on product. Because most of ESD are packed by box and aluminum plate to have conductive power,they are prevented from static electricity.

- You must maintain electric contact between ESD and place due to be set up until ESD is connected completely to the proper place or a circuit board.



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# 10. Product Function

## Main Function

- Camera and camcorder
- Synchronisation with Windows Media Player
- Music player
- Image editor
- Photo printing
- Phone to TV
- Offline mode
- FM radio
- Bluetooth
- File viewer
- SOS message



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# SAMSUNG ELECTRONICS

GSPN (Global Service Partner Network)

| Country | Web Site |
|---|---|
| North America | service.samsungportal.com |
| Latin America | latin.samsungportal.com |
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| Europe | europe.samsungportal.com |
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2007. 03. Rev.1.0